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No. 1353

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MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN DELIVERIES TO STATE IN RSFSR DISCUSSED

Moscow SOVETSKAYA ROSSIYA in Russian 11 Aug 82 p 1

/Article: "Without Losing One Day"/

> /Text/ The chief of the state inspection for the RSFSR Ministry of Procurements P.V. Tolstopyatenko comments upon the course of grain deliveries to the state.

The flow of Russian grain to the country's elevators is increasing with each passing day. On the 9th of August, of 54 autonomous republics, krays and oblasts carrying out grain harvesting operations, 40 are delivering grain to the state. The grain production line -- field-threshing floor-elevator -- has been well organized on farms in Krasnodar and Stavropol' Krays, in Rostov, Saratov and Belgorod Oblasts and in the Tatar ASSR.

In Stavropol' Kray, for example, the grain procurement plan has already been fulfilled by six rayons: Apanasenkov, Blagodarnyy, Grachev, Levokum, Neftekumsk and Petrovsk. Some of them are carrying out above-plan sales of grain to the state. The kolkhozes and sovkhozes in Apanasenkov Rayon, against a plan calling for the sale of 85,000 tons of grain, shipped 91,000 tons to the elevators, with 31,600 tons of this amount consisting of strong wheat only, that is, grain of the highest quality.

The grain growers in the Tatar ASSR are included among those who are displaying a high sense of responsibility in carrying out the first commandment in behalf of the state. They are shipping up to 40,000 tons of grain daily to the elevators.

This figure could have been considerably higher if there had not been any disruptions in the transport operations. In particular, the grain growers in the Tatar ASSR are in a difficult situation. Compared to neighboring oblasts, the harvesting rates here are high and on the threshing floors there are adequate quantities of grain that have been prepared for shipment. However the timely shipping of this grain to the state granaries is being held up by a shortage of motor vehicles. In order to increase the flow of grain to the elevators in the near future, the republic's grain growers must be provied with immediate assistance in the form of transport vehicles.

For Russia as a whole, approximately 9 million tons of grain had been delivered to the elevators by the 9th of August. If one compares the grain delivery rates against the rates for harvesting and threshing the grain, then it becomes apparent that the grain procurement work is still proceeding slowly. There are various reasons for this. In some regions the harvesting work is being carried out under extremely complicated climatic conditions.

However, this is not the case in all areas. There are rayons and oblasts where the grain deliveries are clearly lagging behind the threshing work, with the threshing floors containing considerable quantities of grain that is ready for shipment. Such is the situation for example in Voronezh Oblast. Here all of the rayons are engaged in threshing the grain. More than 750,000 tons have accumulated on its threshing floors and only 220,000 tons have been shipped to the state. On a number of farms the fulfillment of the first commandment is being held up. The Kolkhoz imeni XIX Parts"yezda has already threshed almost 800 tons of grain. Not one kilogram has been delivered to the state.

It is believed that the party and economic organs will undertake all of the measures required in the various areas for ensuring fulfillment of the plan.

In addition to Voronezh Oblast, the farms in Kursk, Lipetsk and Tambov Oblasts are also lagging behind in their grain procurements. Certainly, such a situation cannot be tolerated. All steps must be taken to ensure that the flow of grain to the elevators increases with each passing day.

7026
CSO: 1824/495

GRAIN HARVESTING PREPARATIONS IN SOUTHERN UKRAINE

Moscow PRAVDA in Russian 3 Aug 82 pp 1,2

/Article by I. Timokhov, chairman of the Ovidiopol'skiy Rayon People's Control Committee in Odessa Oblast; V. Panteleyev, supernumerary inspector for the Kherson Oblast People's Control Committee and A. Kucherenko, Ukrainian SSR: "Grain of the Southern Steppes"/

/Excerpts/ Harvest operations are at their peak in the Black Sea region. In the northern rayons the threshing of barley and peas is nearing completion and more than one half of the region's principal grain crop -- winter wheat -- has been cut down. The harvest work is nearing completion in the Crimea and in Odessa Oblast. The plan for selling grain to the state has already been fulfilled by the workers in Reniyskiy Rayon, the Mirnyy and Vygodyanskiy Sovkhozes in Odessa Oblast and by a number of farms in Nikolayev and Kherson Oblasts.

The fields of this region constitute one of the republic's chief grain areas. This year the plans call for more than 10 million tons of grain to be harvested. The oblasts have many common factors: boundless expanse of steppe, similar climatic conditions. The neighbors compete against one another for high yields. The fields here are occupied by approximately 20,000 combines and tens of thousands of harvesters, tractors with attachments and motor vehicles, all joined together in detachments. Never before have these steppe regions seen such a quantity of harvesting equipment. Whereas earlier each combine was responsible for 200-250 hectares, today this workload has been reduced to 160-170 hectares.

A sheaf grows ear by ear. This is a well known truth and by no means an obsolete one. A sheaf embodies the efforts of the grain grower, chemist, machine builder and plant breeder. Considerable importance is being attached at the present time to the final stage of the work, in the interest of ensuring that not one ear or kernel is lost from a sheaf. As you can see, the technical opportunities are available. Provided they are properly utilized, they can make it possible to reduce the harvest period to the optimum number of 10-12 days.

The harvesting methods are selected depending upon the local conditions. This year the plans call for the two stage method to be employed for cutting down 80 percent of the grain tracts; this will make it possible to shorten the harvesting period by 3-4 days. Mobile mechanized detachments have been created. Mobile workshops with welding units and teams for servicing the equipment have been made ready. Special attention is being given to the introduction of the watch method of work.

There is a saying in the rural areas that grain is never easily harvested. This year, on many farms in the Ukraine, strong winds twisted and bent the winter crops to the ground. Owing to a deficit of warm weather during the spring, the spring crops did not reach their accustomed height. There will be less straw. Thus every attempt must be made to ensure that it is harvested completely without losses. This is why great importance is being attached in the Black Sea region to operating the units at a low cutting, to completing the harvest work in a rapid manner and to properly caring for everything furnished by the fields.

The problems concerned with transporting the grain and straw have been thought out in great detail. Special difficulties exist here. For example, just as in the past there is a shortage of motor vehicles and tractor trailers and, as a result, a portion of the combines quite often lie idle. At the Kolkhoz imeni Lenin in Nikolayev Oblast, pick-up balers were used for the harvest work. In Kazankovskiy Rayon in this same oblast, haying wagons were produced using internal resources and these wagons are making it possible to reduce the requirements with regard to transporting the straw.

"A haying wagon was displayed during a seminar at the Pervomayskiy Sovkhoz" stated the chief of the Nikolayev Oblast Agricultural Administration I. Yastreb, "Today each rayon is producing this type of transport vehicle."

Everything that is in the arsenal of a grain grower must be made available for harvesting the crops. In those areas where this fact is not taken into account, the harvesting schedules are not followed and losses occur. Thus the members of an inspection brigade uncovered the following at the Partizan Sovkhoz in Kherson: almost 2 quintals of grain per hectare are being lost owing to poor hermetic sealing of the combines. Who is guilty of this neglect? The agronomic service refers to the engineering service and the latter in turn points to the enterprises of Sel'khoztekhnika, which failed to supply the required materials and spare parts.

Time is not being used to maximum advantage in all areas. Since the very first days of the busy harvest season in Bolgradskiy Rayon in Odessa Oblast the harvesting schedules have not been followed. The technical servicing of the units has been organized in a very poor manner here.

Last year's harvest is recalled in this regard. If you please, there were no farms which undertook to complete the work within a maximum of 15 days. And what actually happened at many of these farms? In a number of rayons in Kherson, Nikolayev and Odessa Oblasts the work dragged out for a month. At the peak of the busy harvest season, owing to poor technical servicing of the machines, one out of every five combines lay idle. As you can see, the proper conclusions were not drawn from the mistakes made in all areas.

At the Tavriya and Pobeda Kolkhozes in Gornostayevskiy Rayon in Kherson Oblast, the equipment was not repaired nor the crews staffed on a timely basis. There was a shortage of batteries for the combines. For all practical purposes, the work plans were mere copies of those for last year. Only the figures differed somewhat. Such facts were uncovered by an inspection brigade in Domanevskiy Rayon in Nikolayev Oblast. And as a result -- an all-hands effort had to be mounted in order to cope with the ripened fields. But, as is known, haste makes waste.

Thus, without batting an eyelid, the Sovkhoz imeni Kirov in Izmail'skiy Rayon in Odessa Oblast reported 100 percent readiness for its combines, despite the fact that not one in ten of them had been prepared for operations prior to the commencement of the harvest work. The restoration of 16 units was dragged out by the Izmail'skiy Rayon sel'khoztekhnika organization. The quality of the repair work was low. And at the present time the holes must be patched up literally while the units are in operation, with consequent losses in both time and crops.

"As yet, not all of our partners are displaying a sense of responsibility for servicing the rural areas" stated the chairman of the Kolkhoz imeni Chapayev in Novoodesskiy Rayon in Nikolayev Oblast Ye. Kravchenko, "Thus, mincers for the SK-5 combines were only listed as having been repaired by Sel'khoztekhnika. Actually, not one bushing had been replaced in them and they were unsuitable for work. The kolkhoz combine operators were themselves forced to repair the units. Meanwhile, money had already been paid out for this work and a considerable amount of money at that. Last year, owing to faulty repair work, many units lay idle. Specialists attached to the diagnostics service do not respond very well to our needs. An urgent appeal for assistance on a farm is answered only after several days have elapsed. Should the grain really have to wait this long?

As mentioned in the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, the partners must bear equal responsibility with the farmers for the crops and not be overly concerned with the pursuit of departmental profits.

Successful harvest operations are greatly dependent upon good preparation of the roads. However the roads are not in good condition in all areas. The condition of the grain routes is arousing serious concern in Shiryayevskiy, Baltskiy Rayons in Odessa Oblast, in Dzhankoyskiy Rayon in the Crimea and in Novobutskiy and Yelanetskiy Rayon in Nikolayev Oblast. Holes and bumps on the country roads and access routes leading to the elevators and grain receiving points represent losses in grain and all possible measures must be undertaken to reduce such losses to zero.

Operational staffs for carrying out the harvest operations have been created in practically all areas -- in each rayon and at every kolkhoz and sovkhoz. At times, it is pleasant to glance at the documents and plans prepared by their workers. Everything is clearly described and everyone has a task. But it often happens that everything is smooth on paper but rough in actuality. More strict control is required over the fulfillment of plans. Experience is available in this regard. For example, in Ochakovskiy Rayon in Nikolayev Oblast each member of the staff is responsible for a specific sector -- the technical servicing of machines and the organization of mass-political work. The demand is both personal and daily in nature.

The grain growers in the southern Ukraine are striving to fulfill the high obligations of the second year of the five-year plan and to make their own contribution towards carrying out the food program.

7026
CSO: 1824/494

GRAIN HARVEST OPERATIONS IN SOUTHERN UKRAINE

Moscow IZVESTIYA in Russian 11 Jul 82 p 1

/Article by S. Troyan and F. Chernetskiy, Zaporozh'ye, Crimea, Odessa and Nikolayev Oblasts/

/Excerpts/ The harvesting work is increasing in intensity with each passing day and operations are proceeding at a maximum tempo on the fields in Odessa Oblast and in the southern rayons.

But the principal records still lie ahead. The most complicated work also lies ahead. At the present time, with the principal tracts of wheat beginning to ripen, the harvest production line is undergoing certain adjustments, the teams are becoming accustomed to the work and tests are being carried out on new developments to be employed during this year's harvest season.

This year the farms in the Zaporozh'ye steppe region decided to use the two-stage harvesting method for from 80 to 100 percent of their early grain areas. The 1st secretary of the Priazovskiy Rayon Party Committee I. Kolomoyets noted:

"It has been established that this measure alone is making it possible to obtain an average of 2-3 additional quintals of grain per hectare and barley -- even more -- up to 20 percent."

Priazovskiy Rayon is the largest rayon in Zaporozh'ye Oblast. Here grain crops must be harvested from almost 64,000 hectares. How is the harvest season progressing? Peas, which occupy 5,400 hectares, were arranged in windrows in just two and a half working days. In 1981 the pea harvest was one half the present size but the harvesting work required twice as much time.

In Priazovskiy Rayon it is believed, and properly so, that there are no matters of secondary importance when it comes to the campaign to reduce losses. For example, in past years each kolkhoz carried out the hermetic sealing of the harvesting units and the planning of the work of the motor vehicles used for transporting the grain. This work was not always carried out in the manner desired. For the 1982 harvest season, this work is being carried out on a centralized basis by the rayon Sel'khoztekhnika association, for which purpose special materials had to be imported. It goes without saying that the farms carry out daily checks on the hermetic sealing of the units.

The field of a neighbor is not a foreign field. For the third year now the workers in Priazovskiy Rayon, during the early part of July, have received assistance from the machine operators in Gulyayipol'skiy Rayon, where the grain ripens 7-10 days later. Five crews from the Gulyaypole imeni Lenin Farm are presently working at the Kolkhoz imeni Kalinin. In all, more than 30 friendly units are being operated today in Priazovskiy Rayon. And the time will come when four crews from the Druzhba Kolkhoz will be despatched to assist the Gulyaypole Mir Farm.

Unfortunately, it must be admitted that this situation does not prevail in all areas. For example, the mowing work was carried out swiftly in Kalanchakskiy Rayon in Kherson Oblast. But swiftly does not necessarily mean good. Owing to this fact alone, the combines at the Partizan and Kalanchakskiy Sovkhozes and at some other farms were not properly prepared for the harvest work and 2 quintals of grain per hectare were lost on the pea fields according to the most humble estimates. Thus the thought crosses one's mind: are other crops being harvested in this same manner here?

The harvest operations are increasing in tempo. The high roads and country roads are springing to life. A greater number of motor vehicles covered with tarpaulins are appearing on these routes. And the drivers are hurrying towards the elevators. The flow of vehicles is increasing with each passing day. Large quantities of wheat grain are being delivered to the granaries -- an invaluable wealth of the southern Ukrainian steppe region.

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TATAR, BASHKIR PULSE, GRAIN HARVESTING

Tatar Pulse Crop Problems

Moscow SEL'SKAYA ZHIZN' in Russian 15 Aug 82 p 1

[Article by V. Goncharov (Tatarskaya ASSR)]

> [Excerpts] To improve the harvesting of the pulse crop, as well as their processing on the threshing floors and drying, and to accelerate the sale of grain to the state constitute the most important problems for farmers.

Peas are a traditional crop in Tatariya. In places where the entire agrotechnical complex is fully observed on the fields, good yields of them are obtained.

On the Kiyatskiy Sovkhoz in Buinskiy Rayon 500 hectares are planted in them. And 26 quintals of grain are harvested from each of them. In some years they have harvested an average of 35-37 quintals here. But this summer hot weather set in during the height of the blossoming phase. It did not last long but the superior ovaries of the plants that were 1 meter tall withered and did not produce full-value peas. The pea yield decreased on certain farms.

In a number of rayons the productivity of the peas decreased sharply because of the failure to observe the agrotechnology for their cultivation. They were also affected by the shortage of granulated phosphorus fertilizers, which were not applied to the peas for their intended purpose and in the necessary volumes. There is now a need to introduce a scientifically substantiated system of fertilizers for the pea fields and apply them to all planted areas in an amount of no less than one ton per hectare. The republic is not receiving the necessary quantity of herbicides for fighting against weeds in the spring either.

Now all the farms are mowing and threshing the peas. There are 7,700 ZhRB-4.2 and ZhBA-3.5 reapers operating on the fields of the republic. Farmers of Sarmanovskiy Rayon have been harvesting peas at rapid rates since the first days. They have prepared the technical equipment well and are mowing with a low setting. The Zinuche, Kommunizm and imeni Musy Dzhalilya kolkhozes completed the mowing of peas into swathes in three days. T. Islamov, M. Ganeyev, A. Yakupov and other machine operators are leading in the rayon competition.

The farms of Oktyabr'skiy Rayon are strictly adhering to the recommendation to begin the mowing of peas when 70 percent of them have turned yellow. In order to make sure that the plants do not remain on the root too long, in addition to pulse reapers, they have also used KS-2.1 tractor mowers that are equipped with fittings for stubbling the swathes. Threshing is being done without delay. The decisions of the express laboratory serve as a signal for beginning it. Remembering that when the moisture content in the peas is 16 percent it is possible to crush the peas and when it is 20 percent it is difficult to dry and process them, the specialists and machine operators determine the optimal time periods for threshing. For this operation they use mainly the SK-4 and Niva combines, whose threshing parts can be regulated so that the farmers can considerably reduce the damage to the grain. In order to avoid losses the threshing is done with the combine drum making no more than 400-450 revolutions per minute. Inspections have established that this protects the grain.

This is not to say that there have been no losses of the crop because of poor adjustment of the technical equipment. Many unmowed pea stalks were discovered on the fields of the Tatarstan Sovkhoz in Tukayevskiy Rayon. It turned out that this took place because of incorrect regulation of the reapers. This case was considered by the rayon people's control committee, the guilty parties were punished and the shortcoming was eliminated. There have been losses and spoilage of grain on the farms of Aksubayevskiy Rayon. The oblast party committee gave a principled evaluation to this case.

The republic has a schedule divided up into 10-day periods for the sale of grain to the state. Farmers of Aktanyshskiy Rayon are to send more than 11,000 tons of peas to the receiving point. This is a realistic task. According to the calculations of specialists, they will retain an average of 17-18 quintals of peas per hectare. Continuous drying and processing of the peas on the mechanized threshing floors are carried out 24 hours a day here. During the nighttime the trucks that are engaged during the day on the "field-threshing floor" route, take the dried and cleaned peas to the grain receiving enterprises. This work is being done ahead of schedule by the farms of Buinskiy, Tetyushskiy, Laishevskiy and a number of other rayons.

But there are also frequent delays in the fulfillment of assignments for pea procurements. Thus the people's controllers have established that on the majority of farms of Zainskiy, Chistopol'skiy and Al'keyevskiy rayons a considerable quantity of commercial peas has accumulated on the threshing floors and the sale of them the state is proceeding slowly.

Farmers of Tatariya have made large commitments for the second year of the five-year plan. Success will depend to a significant degree on harvesting the peas from all areas rapidly and without losses. It is necessary to open up for them a broad path to the grain bins of the state and the seed storehouses of the farms.

Bashkir Unfavorable Conditions Noted

Moscow SEL'SKAYA ZHIZN' in Russian 29 Aug 82 p 1

[Article by V. Orlov (Bashkirskaya ASSR)]

[Text] Two-thirds of the grain crops in Bashkiriya--almost all of the winter rye, peas and barley. But the oats and wheat have not been threshed yet. And they occupy more than a million hectares. Moreover, the areas planted in them this year are mainly low-growing and thin. The weather is also unfavorable for harvesting grains. Under these conditions the machine operators have to mobilize all reserves in order to complete the harvest more rapidly. The main test for the farmer is certainly not easy this year!

The kolkhozes of Ilishevskiy Rayon are sending 3,500 tons of grain each day from the threshing floors to the grain receiving point. The sale of grain is proceeding at especially rapid rates on the kolkhozes imeni Kirov, Iskra, Bashkortostan and Oktyabr'--they send 300-500 tons of grain a day. The Kolkhoz imeni Kuybyshev and Oktyabr' have harvested 33-34 quintals of peas from each hectare, the kolkhozes imeni Kirov and Iskra--34 quintals of winter rye per hectare, and the kolkhozes imeni Mazhit Gafura, Bashkortostan and others--27-30 quintals of barley. All the grain is transported to the grain receiving point without delay or placed in the kolkhoz storehouses.

Quality is especially tightly controlled. Control threshings are conducted on each section on the Kolkhoz imeni XXII parts"yezd in Ilishevskiy Rayon.

In order to increase the rates of dispatch of grain, the rayon has organized night trips for the motor vehicles. This has compensated somewhat for the shortage of automotive transportation, especially small vehicles which transport the grain from the combines to the threshing floor.

The harvest is the crowning moment of the labor of the farmer. The best results are achieved in places where they apply the entire complex of recommended agrotechnology and persistently advance the science of farming. A large amount of work is being done in this direction in Ilishevskiy, Dyurtyulinskiy and several other rayons. Farmers of Chekmagushevskiy and Bkalinskiy rayons have begun to obtain stable yields. New goals have been reached by the farmers of Kushnarenkovskiy, Yanaul'skiy, Belokatayskiy and Abzelilovskiy rayons. All units of the harvesting conveyor are now working hard here.

But there are also examples of another kind. The unfavorable conditions have revealed the omissions of the farms and the rayons that have average productivity, where shortcomings in agrotechnology are usually concealed during ordinary years but are revealed during difficult ones. The grain receiving points are not receiving enough grain from the farms of Chishminskiy, Blagoveshchenskiy, Sharanskiy and several other rayons.

These days Bashkiriya is approaching last year's level of sale of grain to the state. The kolkhozes of Dyurtyulinskiy Rayon have already fulfilled the plan for the shipment of grain and are now selling it to make up for last year's arrears. The kolkhozes of Ilishevskiy Rayon are approaching their goal--to sell 81,000 tons.

But the grain flow is very irregular. For example, grain comes in only during the day to the Suleinskiy elevator, which receives it from the northeastern rayons of Bashkiriya. Gates to the elevator are closed at night. The majority of grain procurement enterprises of the autonomous republics are not operating at full force: when the farms step up shipments lines form at the gates of the elevators and the vehicles stand idle for 5-6 hours And this retards the operation of the entire harvest conveyor. The shortage of threshing floors and sheds has long been a most difficult problem in grain farming in Bashkiriya. This year the difficulties in this area are especially appreciable. The material and technical base for cleaning, drying and storing grain on the farms must be radically improved.

11772
CSO: 1824/538

MAJOR CROP PROGRESS AND WEATHER REPORTING

SARATOV OBLAST GRAIN HARVEST OPERATIONS REVIEWED

Moscow SOVETSKAYA ROSSIYA in Russian 8 Aug 82 p 1

/Article by I. Gorlanov and A. Mochalov, Saratov Oblast/

/Excerpts/ The rain which fell during the early part of August added greatly to the tense nature of the work being performed by the grain growers. Further restrictions were placed upon the time available to them. At the present time, in addition to mowing and threshing the grain they must also procure feed and prepare the soil and seed for the sowing of winter crops, the periods for which are already at hand. In addition, they must not delay in carrying out their fall plowing. In order to cope successfully with all of these tasks, there must be efficiency, good organization and harmonious operations among all elements in the field production line, the machine operators, transport workers and all participants in the harvest campaign must display a high level of expertise and the equipment and labor resources must be maneuvered in a skilful manner.

The 1st secretary of the Fedorovskiy Rayon Party Committee Vasiliy Ivanovich Bartsev stated that increased intra-farm specialization, particularly the establishment of feed production as an independent branch with its own crop rotation plans, is making it possible to carry out the harvest operations in a more organized manner and at a higher tempo. Specialized harvesting-transport complexes have been created at each farm both for harvesting the grain crops and procuring the feed. And in the majority of instances these complexes are coping successfully with their assigned tasks. The rayon's winter grain crops, for example, were cut down and threshed in just 5 days. An average of 17.2 quintals of grain was obtained per hectare.

"It is hoped", stated V.I Bartsev, "that other crops, especially barley, will raise this indicator."

Unfortunately, against an overall background of high harvesting rates and quality, there are nevertheless farms where, owing to a lack of organization and poor use of equipment the grain mowing and threshing rates are still low and output losses are being tolerated. At the Kolkhoz imeni Kuybyshev in this same rayon, for example, nine combines lay idle for an entire week owing to technical defects. Yes and those which were in good working condition were utilized poorly; many of their crews did not fulfill their output norms. Whereas at other farms in the rayon the winter grain crops had already been threshed by the beginning of August, here the crops were still lying in windrows on almost one half of the areas.

The oblast's grain growers must harvest almost 4 million hectares of grain crops and sell almost 3.5 million tons of grain to the state. The full-weight ears out on the Saratov fields this year and the determination of the personnel to harvest everything grown out on the fields without losses inspires the confidence that the oblast's farmers will make a worthy contribution towards carrying out the country's food program.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN HARVESTING CONCERNS IN GORKIY OBLAST DISCUSSED

Moscow SOVETSKAYA ROSSIYA in Russian 11 Aug 82 p 1

/Article by Yu. Burov, Gorkiy Oblast: "An Efficient Production Line"/

/Text/ Today the workers in Gorkiy Oblast are harvesting truly Russian grain -- from the rye fields. These fields are spacious as never before: of somewhat more than 500,000 hectares of winter crops, more than 400,000 hectares are occupied by rye. Its growth has surprised everyone. The grass stand is already very high -- on some fields up to 2 meters.

"But the skies did not cooperate" complained Ivan V'yugin, a combine operator at the Leninskaya Iskra Kolkhoz in Pochinkovskiy Rayon, "We have been mowing for a week and not one day has passed without rain."

Ivan is one of the younger machine operators. As the saying goes, he began at an early age. Although he is only 26 years of age, he has already been acclaimed the prize-winner of an oblast competition for grain growers. And even during these "brief" and interrupted by rainfall days, Ivan contrives to achieve in excess of two norms. The evening before, a picture of V'yugin, who in a day's time had cut down more rye in the rayon than anybody else, appeared in the local newspaper.

"A majority of the oblast's farmers display the same degree of diligence in carrying out their work" stated the secretary of the Gorkiy Oblast Party Committee G.I. Khomenko, "Nobody remains indifferent to a generous harvest: the personnel had been waiting for such a rich grain harvest.

The oblast's harvesting operations commenced almost 2 weeks later than usual. The start of this work preceded somewhat the laying in of the haylage and silage, while the procurements of hay, granules and vitamin meal continue: the period for the "great milk" has not yet occurred. The sowing of winter crops is just now commencing. In short order the plantations of potatoes, beets and cabbage will be ripening. During such a tense situation, only a high level of labor organization and the use of all reserves will make it possible to achieve efficient operation of the grain production line.

All available reserves have been mobilized in behalf of the harvest in Arzamasskiy Rayon. The work has been carried out at a fine tempo commencing with the very first days of the harvest campaign. More than 2,000 hectares had already been threshed by the second day of the harvest. The grain was delivered to the granaries. The workers in Arzamasskiy Rayon have vowed to surpass somewhat their plan for delivering grain to the state and to cope with their obligations without fail.

Innovations have appeared in the oblast which are lowering the labor expenditures and expenditures of time and which are raising the quality of the harvest operations. At the Zarya Kolkhoz in Pochinkovskiy Rayon and on a number of other farms, use is being made of a somewhat different technology: following the threshing, a wide and fluffed up swath remains after the combine has departed. The specialists, after removing the bottom of the straw dumper, adjust the straw swath formers. The straw dires out more rapidly in windrows than it does in ricks. This makes it possible to have a pick-up baler follow in the wake of a combine and this realeases a field more rapidly for other uses. Thereafter the tractors appear almost immediately on the tracts that have just been made available.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

METHODS FOR COMBATING DRY CONDITIONS IN KIRGHIZ SSR DESCRIBED

Frunze SEL'SKOYE KHOZYAYSTVO KIRGIZII in Russian No 6, Jun 82 pp 7-8

/Article by Central Committee of Communist Party of Kirghizia: "For Overcoming the Adversities Caused By a Lack of Water"/

/Excerpts/ For communists, komsomols and all workers throughout the republic.

Dear Comrades! The agricultural workers and all those who are presently engaged in the practical implementation of the country's food program bear a special responsibility for carrying out the high obligations undertaken. In view of the exceptionally severe weather conditions, they must work with doubled and tripled energy.

The situation at the present time is such that, owing to the dry spring, many plantings of grain, forage and other crops, natural pastures and haying lands have sustained substantial and in some areas irreparable damage. Moreover, if the impending threat posed by low water conditions, which can cause non-irrigated plantings to perish, is not countered in a timely manner by a high level of organization and selfless labor, considerable losses may be sustained in grain, feed and other valuable field and farm products. And, certainly, by no means can this be tolerated.

Thus the Central Committee of the Communist Party of Kirghizia, taking into account the exceptionally grave situation which has developed in agriculture throughout the republic this year, addresses an appeal to you -- communists and komsomols, to all agricultural production workers and also to those collectives of industrial enterprises and other organizations furnishing support for the rural areas -- to display a high level of conscientiousness, industry, general concern and economic zealousness for obtaining maximum yields for the grain, forage and other crops from each irrigated hectare of land.

In order to ensure the unconditional fulfillment of the socialist obligations for the production and sale of grain and other types of agricultural products to the state and also to ensure that the livestock are fully supplied with feed for the impending wintering period, each kolkhoz and sovkhoz must determine for itself the manner in which it is to compensate for the anticipated shortfall in grain and feed from non-irrigated tracts.

The most realistic means for achieving this include expanding the areas to be used for corn for grain and raising the cropping power of grain crops on irrigated lands. We must strive to achieve, as averages for the republic, no less than 40 quintals of cereal grain and 65 quintals of corn grain from each irrigated hectare.

With regard to the production of feed, every attempt must be made to ensure that each irrigated hectare in the valley zone produces 100 quintals and in the mountain zone -- 70 quintals of perennial grass hay. This requires decisive improvements in the tending of the crops, efficient planning for the periods between cuttings, bringing them to 20 days in all areas and in this manner obtaining one additional and rich cutting of perennial grasses.

In the interest of increasing the production of feed, strict control must be exercised over each patch of irrigated land, every one hundredth of a hectare must be sown in fodder gourds, fodder and sugar beets and other crops, post-harvest crops must be sown following the harvesting of early grain and vegetable crops and these crops must be tended in an exemplary manner so as to ensure that no less than 150-200 additional quintals of fodder will be obtained per hectare this year. At the present time, each farm must also commence procuring ramal feed and common reeds and carry out mowing work along the sides of roads and irrigation ditches. The straw and other types of feed remaining from last year must be taken into account and properly preserved.

The Central Committee of the Communist Party of Kirghizia calls upon all of the comrades to acquire an understanding of the existing situation and to display the best qualities of a farmer -- expertise and conscientiousness -- and to mobilize all accumulated experience for combating the effects of a lack of water. In order to obtain the desired return from irrigated arable land, the unfavorable weather conditions of this year can and must be countered by a high degree of organizational ability, discipline and selfless labor.

Experience is one of our priceless riches. And today it must be made available to each irrigation specialist. This is particularly true given this year's conditions in view of the fact that we must all strive to ensure the rational use of the water resources and make each liter of irrigation water work in behalf of the harvest. In the process, we must establish a firm barrier against the thriftless use of water and prevent its useless waste. The irrigation work must be carried out around the clock. Special importance is attached to ensuring that the water delivery norm for a sprinkler at each farm, brigade and team does not exceed 25 liters per second.

The extensive use of progressive irrigation methods in all areas must be of great assistance this year. Special attention must be given to the continuous and around-the-clock operation of the irrigation equipment, to furrow irrigation with reinforcement of the headstalls and to the use of flexible hoses. In keeping with the example set by leading farms, highly productive use must be made of wide-swath sprinkling equipment of the Fregat and Volzhanka types. The work must be arranged in a manner such that all of the sprinkling equipment is operated continuously, with the productivity of each unit reaching 14-18 hectares of plantings daily. In order to retain moisture and increase the fertility of fields extensive use must be made of irrigation with simultaneous applications of rotted pulverized manure.

The workers assigned to irrigation systems are obligated to furnish maximum assistance to irrigation specialists in the rational use of irrigation water and in the extensive use of progressive methods for irrigating fields. Maximum use must be made of all light irrigation means -- local sources of irrigation, mobile pumping stations, wells. The task of the aquicultural construction organizations consists of concentrating all of their efforts on achieving ahead of schedule completion of the construction of irrigation installations which will be able to supply water to the fields this year.

The Central Committee of the Communist Party of Kirghizia calls upon all kolkhoz members, sovkhoz workers, brigade and team leaders and all specialists engaged in tending the crops to ensure that the fields are maintained in a clean state, that they are not allowed to become dried out, that the inter-row spacings are loosened following irrigations and that timely measures are taken aimed at combating the agricultural pests and diseases.

The party committees and Soviet agricultural organs must, as required by the recently adopted decree of the CPSU Central Committee and the USSR Council of Ministers, display a maximum degree of organizational ability and devote all of their efforts towards ensuring that the grain and forage crops are harvested without losses. Concern must also be displayed for ensuring that each kernel ends up in a granary and each blade of grass -- in a hay stack.

The Central Committee of the Communist Party of Kirghizia calls upon the party organizations of industrial enterprises, construction projects, municipal institutes and worker settlements to render maximum assistance to rural workers in harvesting grasses from natural haying lands, procuring ramal and other types of feed and in establishing haylage and silage trenches in the number called for in the measures approved during the 7th Plenum of the Central Committee of the Communist Party of Kirghizia. The work of collecting food scraps in cities and worker settlements must be further intensified.

Under the conditions imposed by this current unfavorable year, the private plots of the population serve as a great reserve for supplementing the food resources. Opportunities must be sought for providing the private plots with irrigation water and pastures for the livestock. The private plots of the population represent part of our common property and as such a state approach should be employed in connection with their management.

This is not the first time that the rural workers in our republic have encountered such severe drought and low water conditions. We have already experienced such unfavorable years. And as Comrade L.I. Brezhnev emphasized during the November (1981) Plenum of the CPSU Central Committee, "many years of experience have shown that unfavorable agricultural years occur in our case every other year. Hence this must be viewed as a rather common and natural phenomenon of our climate. We must counter it with expertise, experience and industry and together we must undertake to overcome these difficulties and to emerge victorious!"

The Central Committee of the Communist Party of Kirghizia expresses the firm conviction that the communists and komsomols, agricultural workers and all workers throughout the republic will devote a maximum amount of effort and selflessly carry out their tasks in the interest of alleviating the effects of the drought and low water conditions and celebrating the glorious jubilee -- the 60th anniversary of the Union of Soviet Socialist Republics -- with new labor successes.

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MAJOR CROP PROGESS AND WEATHER REPORTING

BRIEFS

CORN SOWING COMMENCES--The sowing of corn has commenced on a majority of the farms in the Ukraine. Eight of every 10 hectares will be cultivated using the industrial technology. /Text/ /Moscow EKONOMICHESKAYA GAZETA in Russian 19 May 82 p 4/ 7026

NEW TECHNOLOGY EMPLOYED--Kherson--Healthy seedlings have appeared on the corn plantations of the Sovkhoz imeni 60-Letiya Sovetskoy Ukrainy in Belozersk Rayon. Notwithstanding the cold spring weather, the machine operators carried out their sowing work in strict conformity with the requirements of the new technology which they developed together with the Ukrainian Scientific Research Institute of Irrigated Farming. The extensive dissemination of experience has made it possible for more than 100 mechanized teams throughout the oblast to campaign to obtain 100 quintal yields. /Text/ /Moscow GUDOK in Russian 12 Jun 82 p 1/ 7026

SOUTHERN UKRAINE HARVEST--The harvest operations have advanced into the southern Ukraine. The first record of the season was established in Kherson Oblast by combine operator Ye. Zaporozhets at the Rossiya Kolkhoz in Golopristan Rayon. Over a period of 2 days he harvested barley from more than 30 hectares and obtained 1,000 quintals of grain. And in the Crimea the harvesting of barley is nearing completion and in some areas they are cutting down the wheat. The combines on leading farms are being operated 18-20 hours daily. Extensive use is being made of the method of maneuvering equipment. The machine operators at the Zarya and imeni Dzerzhinskiy Sovkhozes and the Kolkhoz imeni Zhdanov in Simferopol' Rayon were the first to thresh their barley and they are providing assistance to the Dubki Sovkhoz where this crop occupies a large area. At the same time, the commencement of the harvest operations in the Crimea has served to reveal vexing shortcomings in its organization. Thus, not all of the combines at the Tavricheskiy Sovkhoz in Krasnoperekop Rayon were prepared well for the work. And almost immediately some of the equipment lay idle. The supplying of fuel for the units was organized in a poor manner. The harvesting of the barley was dragged out unjustifiably. The proper conclusions must be drawn from such lessons. /Excerpts/ /Moscow IZVESTIYA in Russian 9 Jul 82 p 1/ 7026

HARVEST AT HAND--The long-awaited hour has arrived: the fields in the southern Ukraine have turned a golden yellow in color, undulating waves of air pass over them and the area is filled with the inimitable aroma of fresh grain. The period which crowns the laborious work of the farmers is at hand. The period leading up to it was tense indeed and the atmosphere changeable. In particular, the heat experienced during the month of May causes a considerable amount of alarm: the high temperature on some days caused the humidity to fall to 30 percent. And not every field could endure such conditions: the barley did not reach its accustomed height and the ears were not as large as expected. The heat also affected the peas. However the principal fields -- the winter wheat fields -- endured these conditions. Following the rain which fell in July, these fields improved greatly and are now pleasing to the eye. Certainly, the major concern of the grain growers at the present time is that of harvesting and protecting this wealth. /Text/ /Moscow IZVESTIYA in Russian 11 Jul 82 p 1/ 7026

SPECIAL WHEAT STOREHOUSES--Odessa, 31 Jul--Since the commencement of the harvest work in the Black Sea region, the largest quantity of strong and valuable varieties of wheat has been delivered to the Belgorod-Dnestrovskiy Grain Products Combine. Special storehouses equipped with forced ventilation have been set aside for this wheat; the drying and purification lines at these storehouses are operating at full capacity. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 1 Aug 82 p 1/

WHEAT SALES TO STATE--Kirovograd, 9 Aug--The oblast's farms have sold more than 100,000 tons of strong and valuable varieties of wheat to the state. The busy harvest season has entered its final phase out on the vast steppe expanses. The harvesting complexes are carrying out their threshing work on tracts that were sown in intensive grain varieties. Many areas are producing more than 40 quintals of grain per hectare. It is being shipped without delay to the state granaries. In response to the decisions handed down during the May (1982) Plenum of the CPSU Central Committee and in conformity with the requirements set forth in the food program, the Kirovograd farmers have resolved to increase their sales of strong and valuable wheats by a factor of 3-4 during the next few years. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 10 Aug 82 p 1/ 7026

UNFAVORABLE WEATHER CONDITIONS--This year grain and pulse crops have been planted on almost 15,000 hectares in Komrat Rayon. Having completed their cutting and threshing of barley and peas, the grain growers have commenced harvesting their principal crop -- winter wheat -- on an extensive scale. The machine operators from 20 detachments have moved 127 steppe ships out onto the fields. The harvesting of the grain and pulse crops was delayed by a lack of rainfall. The cropping power was delayed by the unfavorable weather conditions. This could be countered only by good organization, expertise and the ability to take advantage of each good hour of time for carrying out the harvest work. Although brief -- 7-10 days -- the busy harvest period nevertheless requires tense work on the part of the farmers. A machine operator has not fulfilled his professional and civil obligations until he has harvested the crop completely and eliminated all losses. /by N. Milyukhin, engineer for the Ministry of the Fruit and Vegetable Industry of the MSSR; K. Terzi, agronomist for the Kolkhoz Council of the MSSR; O. Loskutova/ /Excerpts/ /Kishinev SOVETSKAYA MOLDAVIYA in Russian 13 Jul 82 p 2/ 7026

GRAIN HARVEST CONTINUES--Kishinev, 28 Jul--The harvesting of grain crops continues in Moldavia. The farmers in the southern rayons -- Chadyr-Lunga and Komrat -- were the first in the republic to fulfill their plan for selling grain to the state. Success has been achieved in Chimishliya and Slobodzeya Rayons. Strong and valuable wheats constitute a considerable portion of the volume procured from the farms in Slobodzeya Rayon. For the second year in a row, such grain is being delivered to the receiving point by the Kolkhoz imeni Michurin. The republic's procurement specialists have accepted more than 250,000 tons of cereal and pulse crop grain. /by N. Marfin/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 29 Jul 82 p 1/ 7026

GRAIN FOR STATE--Kishinev, 6 Aug--In striving to make a worthy contribution towards solving the tasks of the food program, the kolkhozes and sovkhozes of Moldavia have fulfilled their plan for selling cereal grain to the state. The grain growers in Brichany and Orgeyev Rayons distinguished themselves during the socialist competition associated with the harvest work. More than three fourths of the grain procured by them came from strong or valuable wheat varieties. The shipments of above-plan grain are continuing. The republic's procurement points have completed their preparations for receiving the new crop from the corn fields. /by N. Marfin/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 7 Aug 82 p 1/ 7026

MILLION TONS OF GRAIN--Saratov--Today farmers of the oblast sent the millionth ton of grain from the threshing floors to the elevators. Most of this grain was produced by grain growers of Aleksandrovo-Gayskiy, Novouzenskiy, Krasnokutskiy, Balakovskiy, Fedorovskiy, Sovetskiy and Engel'sskiy rayons of the the Transvolga area. Striving to make a weighty contribution to the fulfillment of the Food Program this year, the agricultural workers are increasing the rates of the harvesting and procuring of grain. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 20 Aug 82 p 1] 11772

GRAIN TO HOMELAND--Stavropol'--As of today 1.5 million tons of grain have been sent from the threshing floors to the elevators of Stavropol' since the beginning of harvesting. The annual plans for depositing grain into the state grain bins have already been successfully fulfilled by one-third of the kolkhozes and sovkhozes of the kray. The large amount of almost 115,000 tons has been received by procurement workers from the farms of Budennovskiy Rayon. They have fulfilled their annual assignment for all kinds of grain. Grain growers of the kray are filled with resolve to meet their socialist commitments--to deliver 1.9 million tons of grain to the elevators. Corn harvesting comes next. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 18 Aug 82 p 1] 11772

TAMBOV GRAIN--Tambov--Implementing the decisions of the May Plenum of the CPSU Central Committee, farmers of the oblast are making their contribution to the country's Food Program. Having raised a good harvest, they are competing for the sale of 1 million tons of grain to the state. They have already deposited more than 300,000 tons in the grain bins of the homeland. The Pamyat' Kirova Kolkhoz in Uvarovskiy Rayon, the Kolkhoz imeni Kalinin in Zherdevskiy Rayon, the Kolkhoz imeni Dzerzhinskiy in Kirsanovskiy Rayon and others are selling grain in excess of the plan. More than 60 transportation detachments which include 2,700 trucks are working on the shipments. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 18 Aug 82 p 1] 11772

STAVROPOL' GRAIN--Grain growers of the Stavropol' area are successfully completing harvesting work. Since the beginning of harvesting 1.5 million tons of grain have been delivered from the threshing floors to the elevators of Stavropol'. The annual plans for depositing grain the state's grain bins have already been successfully fulfilled by one-third of the kolkhozes and sovkhozes of the kray. Among the first to fulfill the assignment for the sale of grain to the state were the farms of Blagodarnenskiy Rayon. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 35, Aug 82 p 3] 11772

IN COUNTRY'S FIELDS--Farmers of Tambovskaya Oblast have threshed the grain from 1.5 million hectares. The fields have rewarded them generously for their hard work. Many kolkhozes and sovkhozes are obtaining 35-40 quintals of grain per hectare. One-fourth of a million tons of it have already been sent to the state grain bins. Elevators and grain receiving points of Rostovskaya Oblast have received 2 million tons of grain from the new harvest. A large elevators has gone into operation near the city of Yefrema in Pulskaya Oblast. It has the latest equipment, including powerful grain elevators and dryers. [Excerpts] [Moscow EKONOMISCHESKAYA GAZETA in Russian No 35, Aug 82 p 3] 11772

HIGH PRODUCTIVITY--Ul'yanovsk--The highest productivity in grain shipments in the Central Volga area was achieved by the driver S. Martynov who works in Starokulatkinskiy Rayon. With his KamAZ truck and two semitrailers, he delivers up to 100 tons of grain from the threshing floors to the elevators each day--three times the norm. Since the beginning of the harvest this leading worker has shipped a record quantity of grain--1,500 tons. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 Aug 82 p 1] 11772

GRAIN THRESHING--Lipetsk--The kolkhozes and sovkhozes of the oblast have harvested the grain crops from 500,000 hectares. They have deposited about 400,000 tons of grain into the state grain bins. The farmers are literally winning back the grain from the bad weather and providing examples of self-sacrificing labor. The first in the oblast to fulfill the plan for the sale of grain to the state were the farmers of Gryazinskiy Rayon--the initiators of the oblast competition of farmers for exemplary harvest work. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 Aug p 1] 11772

GOOD CROP--Tambov--Day and night convoys of trucks are hurrying from the threshing floors to the elevators. They have deposited 450,000 tons of Tambov grain into the country's grain bins. The farms of the oblast as a whole have committed temselves to selling the state no less than a million tons of grain. Workers of the kolkhozes and sovkhozes in the oblast have raised a good crop: each hectare is producing an average of more than 20 quintals of grain. The Pamyat' Kirova Kolkhoz, the Kolkhoz imeni Kalinin and others are already selling grain to the state in excess of the plan. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 Aug p 1] 11772

TATAR GRAIN GROWERS--Kazan'--The winners of the harvest competition in Tatariya were the grain growers of Vysokogorskiy Rayon. They were the first in the autonomous republic to fulfill the plan for the sale of grain to the state. They deposited more than 15,000 tons of grain into the grain bins. Workers of the Kalininskiy and Druzhba sovkhozes and the Kolkhoz imeni Lenin fulfilled the assignment twice over. The skillful organization of the harvesting complexes working according to the Ipatovo method contributed to the success. Two machine operators were assigned to each combine. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 Aug 82 p 1] 11772

TWO MILLION TONS--Rostov-on-Don--The kolkhozes and sovkhozes of the oblast today deposited the second million ton of grain into the state grain bins. The largest amount of it came from the farms of Sal'skiy, Zimovnikovskiy, Zernogradskiy and Azovskiy rayons. Farmers of the kolkhozes and sovkhozes of Remontnenskiy Rayon, having fulfilled the national economic plan, are now sending additional grain. The Zavety Il'icha Kolkhoz in Peschanokopskiy Rayon, the Kolkhoz imeni Pervogo maya in Tselinskiy Rayon, the Rodina Kolkhoz in Oblivskiy Rayon, and the Stepnovskiy and Yegorskiy sovkhozes are selling grain to the state in excess of the plan. They have fulfilled the plans for grain procurements this year and have created seed supplies for two years of the five-year plan. Many collectives of the harvesting and transportation complexes, machine operators, drivers and workers of the threshing floors and elevators are providing examples of a heroic, self-sacrificing struggle for grain. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 17 Aug 82 p 1] 11772

BRYANSK GRAIN--Bryansk--Many farms of the oblast have raised a large grain crop. There are now 460 harvest-transportation complexes conducting the harvest. Taking into account the fact that the grain has lodged on large areas, the machine operators are using stubble lifters, mowing the grain into swathes and gathering it by the direct method. The work is proceeding successfully on the Kolkhoz imeni Michurin and the Put' Lenina Kolkhoz in Pogarskiy Rayon, the Iput' Sovkhoz in Mglinskiy Rayon, the Kolkhoz imeni Lenin in Klintsovskiy Rayon and other farms. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 15 Aug 82 p 1] 11772

IPATOVO METHOD EMPLOYED--Taldy-Kurgan, 19 Jul--The mass harvesting of grain crops has commenced on fields throughout the oblast. /by M. Davidovich/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 20 Jul 82 p 1/ 7026

GRAIN HARVEST NEARING COMPLETION--Chimkent Oblast--This year has been a difficult one for the grain growers in southern Kazakhstan. Drought conditions prevented the ears from attaining their full size. As a result, the cropping power of the fields dropped considerably. Nevertheless, the farmers have resolved to harvest rapidly and without losses that which they succeeded in growing despite the complicated weather conditions. Thus the grain campaign is being carried out in all areas at a high work tempo. The busy harvest season is coming to a close at the present time. The grain harvest is already nearing completion in the piedmont and mountainous zones. In increasing numbers, the combines are being replaced out on the tracts by plowing units. /by Yu. Livinskiy/ /Excerpt/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 8 Aug 82 p 1/ 7026

RICE HARVEST APPROACHES--Kzyl-Orda Oblast--The farmers along the lower reaches of the Syrdar'ya River have completed their barley and wheat harvest. This year the sowings of these crops were expanded by 6,500 hectares. Next on the agenda -- rice. Notwithstanding the late spring, the rice ripened earlier than usual -- it was hastened along by the hot weather. Many farms had to increase their repair rates for combines, harvesters, heap separators, grain loaders, motor vehicles and other items of equipment. The rice harvest is drawing near along the lower reaches of the Syrdar'ya River. The farmers are fully resolved to be fully prepared for the 1982 harvest. More than 240 detachments, all of which will employ the Ipatovo method, have already been formed. The threshing floor, storehouse facilities and weighing equipment have all been made ready for the forthcoming work. /by A. Il'ichev/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 8 Aug 82 p 1/ 7026

GRAIN DELIVERIES--Ural'skaya Oblast--Grain from the Priural'ye region is being delivered to the state's granaries. Among our drivers engaged in transporting grain from the fields to the threshing floor, excellent work is being performed by Mikhail Dovbnya, Petr Stepanov and many others. Nikolay Novik is distinguished by exemplary labor and a creative approach in carrying out his tasks. Each day he delivers 600 quintals of grain from the combines. This harvest period is serving as a serious test for the grain growers. The wheat turned out to be low in height and yet the ears are adequately formed. Thus the grain must be obtained at a low cutting. This is not new work for us, as we do possess experience. Thus the chief consideration is that of organizing the work and the socialist competition during the harvest campaign in an efficient manner. No rain fell in May or June. Moreover, the supply of winter and autumn moisture was scanty. This year the moisture content in the arable layer came to only 20-40 centimeters, compared to a meter during average productive years. Thus the grain crops turned out to be low in height and sparse in density. Nevertheless, we are obtaining 9 quintals of grain per hectare. The productivity of the barley fields is higher -- 12 quintals on the average. The harvest work is being carried out by 50 combines that have been thoroughly prepared and hermetically sealed. In view of the low cropping power, we are striving to preserve each ear and each kernel. Difficult fields characterized by plants of varying heights are being worked by combines that have harvesters which are reliably equipped with additional traps for the ears. /by A. Kuz'menko, chairman of the Kolkhoz imeni Kalinin and M. Tulegenov, secretary of the party committee in Terektinskiy Rayon, Ural'sk Oblast/ /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 6 Aug 82 p 1/ 7026

ON MOUNTAIN FIELDS--Alma-Ata--The farms in the capital oblast have commenced harvesting their grain crops from mountain fields. On many tracts the grain crops are of low height. For the best mowing and threshing the machine operators have attached rubber belts to the reel and adjusted the harvesters for a low cutting. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 7 Aug 82 p 1/ 7026

RIPENING OF EARLY BARLEY--Tselinograd Oblast--Early barley has ripened at the Krasnyy Flag Sovkhoz. Machine operators P. Lyakh, V. Prokin and G. Ignatenko, taking into account the fact that the barley is of low height and sparse, adjusted their harvesters for a low cutting and tightened the harvester-stackers. The initial dozens of tons of grain have been delivered to the sovkhoz's threshing floor. "We have assigned the task" stated the chief agronomist for the sovkhoz L. Stasyukov, "of harvesting not only the grain but also all of the post-harvest residues." /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 7 Aug 82 p 1/ 7026

HARVEST SEASON COMMENCES--Vostochno-Kazakhstanskaya Oblast--Since the very first days of the harvest work at the oblast's experimental agricultural station, the team headed by the bearer of two Orders of the Red Banner of Labor Georgiy Kizeyev has been in the lead. Using four harvesters, the machine operators are mowing 80 hectares of winter rye and barley daily -- considerably more than the figure called for in the plan. Over a period of several days the station's machine operators cut down 400 hectares of peas, 280 of winter wheat and 60 hectares of rye. A high yield is being obtained from the barley. The combine operators are obtaining an average of up to 27-30 quintals per hectare. The grain harvest has also commenced on other farms in Glubokovskiy, Shemonaikhinskiy and Samarskiy Rayons. /by P. Shchuplov/ /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 30 Jul 82 p 1/ 7026

BARLEY AND WHEAT HARVEST--The fields in Kustanay Oblast are ripening. The oblast's farmers have commenced mowing their barley, with wheat being next in line. Wheat is the chief agricultural crop here; it occupies more than 3 million hectares. The complete introduction of the soil-protective system of farming and an improved culture for cultivating the fields have made it possible to establish a good foundation for the harvest. This year the oblast's grain growers have resolved to make a considerable contribution towards carrying out the food program and they will work under the same slogan adopted by the workers in Saratov Oblast: "Preserve everything that is grown!" Many farms are undertaking raised socialist obligations for selling grain to the state. /Excerpt/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 14 Aug 82 p 1/ 7026

HARVESTING-TRANSPORT DETACHMENTS--Kustanay, 11 Aug--Work is in full swing out on the grain fields in Kustanay Oblast. The harvesting of pulse crops is being carried out at a high tempo. This year, 810 harvesting-transport detachments are participating in the harvest work. These detachments include more than 4,000 teams, with approximately 800 of them providing technical servicing for the units. Hundreds of teams will work this year based upon a single order and on a solid basis. /by I. Puzyrev/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 12 Aug 82 p 1/ 7026

FROM IRRIGATED LANDS--Frunze, 6 Aug--The summer in Kirghizia turned out to be dry. But owing to the proper use of moisture, 55 quintals of winter wheat grain were obtained under irrigation conditions at the Kolkhoz imeni K. Marks in Oshskaya Oblast. More than 46 quintals were obtained at the Uzgen Sovkhoz. Almost the same yield was obtained from sowings at the Kirghiz Machine Testing Station. In order to ensure that the fields were supplied with moisture, four additional pumping stations were included in the work being carried out at the Kolkhoz imeni Lenin in Alamedinskiy Rayon. They supplied water for the crops from a collector canal and other sources which earlier were used only rarely. The grain yield per hectare exceeded 40 quintals. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 7 Aug 82 p 1/ 7026

HIGH GRAIN YIELDS--Kokchetav Oblast--High yields have become the norm in Shchuchinskiy Rayon. Last year, for example, 14.5 quintals of grain were obtained from each hectare under severe drought conditions -- this was higher than the yields obtained in other rayons throughout the oblast. A great deal has been accomplished in the interest of ensuring that the fields produce a good return. Following the sowing work, healthy and uniform seedlings appeared in all areas. The crops were tended and the equipment repaired on a timely basis. In short, a high level of readiness was displayed for the harvest campaign. But the grain growers were extremely cautious in their yield forecasts. There was a deficit of rainfall and that which did occur fell in an irregular manner. At the present time, great differences are apparent in the growth of the crops. Different approaches were employed on the farms for deciding upon the work technologies to be used. Whereas the majority of the grain crops at the Urumkayskiy Sovkhoz will be harvested using the two-stage method, at the Voronovskiy Sovkhoz approximately two thirds of the fields must be harvested by means of direct combining: here there are large quantities of low grain. Work plans and the conditions for the competition and for awarding bonuses to those participating in the harvest work have been composed taking into account the local conditions. The grain crops have also turned out to be of low height on some other farms. According to estimates by the specialists, up to 40 percent of the areas must be harvested directly. This exceeds last year's work volumes by more than twofold. The work had to be reorganized on an urgent basis on the eve of the harvest campaign and the re-equipping of the harvesters started. Much is being done to hermetically seal the combines and harvester-stackers, so as to ensure that not only the grain but also all of the straw, together with the chaff, is retained for cattle feed. And this is correct. This year the haying lands are poor as a result of having been scorched by the sun and thus an even more thrifty attitude must be displayed with regard to the post-harvest residues. The preparation of the mechanized threshing floors, weighing equipment, motor vehicle and tractor trailers and field and access roads is nearing completion. /by an inspection brigade of KAZAKHSTANSKAYA PRAVDA: G. Reutskiy, chief of the oblast inspection of Gossel'tekhnadzor and head of a sector of a supernumerary department of the oblast's people's control committee; Yu. Smirnov, acting chief engineer of the rayon agricultural administration; N. Leys, engineer and chairman of the people's control group at the Urumkayskiy Sovkhoz; F. Kukgau, chairman of the people's control group at the Voronovskiy Sovkhoz; P. Batukhtin, correspondent of STEPNOY MAYAK Newspaper and G. Maslov, correspondent of KAZAKHSTANSKAYA PRAVDA/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 10 Aug 82 p 1/ 7026

FORTY QUINTALS OF GRAIN--The grain harvest has reached the highest levels of the Tien Shan Range: the farmers in Naryn Oblast have commenced their mass mowing and threshing of cereal grain crops. Approximately 30 harvesting-transport detachments and complexes, all of which operate on the basis of the Ipatovo method, have moved out onto the mountain valley fields. The machine operators have vowed to complete this year's harvest in 15 days and to avoid grain losses in the process. The farmers are obtaining up to 40 quintals of grain per hectare of irrigated land.

HARVEST PREPARATIONS--We have been informed by the republic's Ministry of Agriculture that the formation of harvesting-transport complexes has been completed in all areas at sovkhozes and kolkhozes in Kustanay, Kokchetav, Severo-Kazakhstan, Turgay, Tselinograd and Pavlodar Oblasts. In excess of 4,000 such complexes -- more than last year -- have been moved up to the starting line. A combine operator and an assistant have been assigned to each unit. Combine operator reinforcements have been of assistance in staffing a second shift of drivers. The farms trained almost 13,000 of them at courses for general machine operator instruction. The grain crops are irregular in size, with large quantities being of low height. Individual technologies were developed for each field at the sovkhozes and kolkhozes and a portion of the units were re-equipped in advance for low cuttings. Grain lifters were prepared for the mowing of lodged cereal grain crops. The work plans called for the complexes and detachments to be operated at maximum workloads. The schedules were composed in a manner so as to preclude excessive speeding of the equipment during the shifts. The equipment is to be serviced by expert-troubleshooters in all areas. The sovkhozes and kolkhozes have been provided with recommendations for the use of progressive methods for transporting the grain from the combines to the threshing floors. Multiple-trailer grain deliveries involving the use of storage-hoppers, trailers and tractors, will be introduced on an extensive scale. Many farms have prepared devices and automatic dumpers for the rapid unloading of motor vehicle trains at the threshing floors. As yet, not all of the combines have completed their preparation of the combines for operations. They must all be placed in proper working order in the very near future. /Text/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 14 Aug 82 p 1/ 7026

HIGH MOWING, THRESHING RESULTS--Aktyubinsk--The vast fields in the steppe region of Aktyubinsk Oblast resounded with the roar of motors. Thousands of machine operators had joined in the harvesting of the crops and commencing with the very first days were achieving high results in carrying out their mowing and threshing work. This year's crops have ripened under complicated weather conditions. But still the grain crops are not bad. The oblast has undertaken the obligation of selling no less than 750,000 tons of grain to the state, considerably more than the figure called for in the plan. Stable growth in the grain production volumes has been promoted mainly by the increasing expertise of the agricultural workers and the culture of farming. The machine operators carried out their sowing work during the best agrotechnical periods and in a considerably more organized manner. The overwhelming majority of the farms employed a complete assembly of anti-erosion equipment during the spring field operations and this made it possible to retain a maximum amount of moisture in the soil and also to get rid of many weeds. More than 1 million tons of organic material were applied to 300,000 hectares of wheat, with mineral fertilizer being applied simultaneously with the planting of the seed. The initial days of the harvest campaign have convincingly shown that the efforts expended are being repaid handsomely. The grain growers in Alginskiy Rayon are obtaining 8.4 quintals per hectare, Oktyabr'skiy Rayon -- 8 quintals and in Khobdinskiy and Martukskiy Rayons -- 7 quintals per hectare. The barley being delivered to the elevators and grain receiving points is dry, clean and has a high volume weight. This year the oblast's grain growers must harvest grain crops from 2.2 million hectares -- 220,000 more hectares than the figure called for in the plan. The combine workload is high: 238 hectares per unit. But the farms are confident that the harvest work will be carried out during the best periods. The well-prepared equipment and the cadres of machine operators serve to guarantee that this will be the case. Approximately 2,500 combine operators from the oblast and rayon centers alone are participating in the harvest work this year. Many of them proved themselves to be mature experts during work carried out in past years. Three hundred harvesting complexes and 910 teams have been organized at sovkhozes and kolkhozes throughout the oblast. /by A. Gurkin/ /Excerpts/ /Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 4 Aug 82 p 1/ 7026

MASS GRAIN SALES--Ural'sk, 23 Jul--Hundreds of motor vehicle trains have moved out onto the routes leading from the threshing floors to the elevators in the Kazakhstan Priural'ye region. Today the oblast's kolkhozes and sovkhozes have commenced their mass sale of grain to the state. The oblast's procurement specialists -- winners of the republic competition -- have done an excellent job of preparing the logistical base for receiving the new crop. Improvements have been carried out in the unloading, transporting, cleaning and storage of the grain, the capacities have been expanded and the delivery capacity of the elevators has been increased. Many of them are operating on the basis of hourly schedules. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 24 Jul 82 p 1/ 7026

GRAIN HARVEST STATUS REPORT--Saratov--One half of the areas to be harvested have been cut down at kolkhozes and sovkhozes throughout the oblast. Threshing work has been completed on 1 million hectares. The inclement weather did not catch the machine workers unawares. So as not to lose grain, the combine operators are operating their machines at lowered speeds and employing grain lifters. Low-growing barley is being harvested using the indirect method. The operational maneuvering of equipment is proving to be of great assistance. A constant flow of grain from the new harvest is moving towards the elevators. The drying of the grain using the forced ventilation method has been organized at the mechanized threshing floors. The farmers at the Novoaleksandrovskiy Sovkhoz in Aleksandrovo-Gayskiy Rayon were the first in the oblast to fulfill their annual plan for grain procurements. They have sold 3,000 tons of grain. /Text/ /Moscow PRAVDA in Russian 9 Aug 82 p 1/ 7026

TO PREVENT GRAIN LOSSES--Novgorod--Driving rainfall has lodged many grain tracts on fields throughout the oblast. In the interest of preventing losses, the machine operators have equipped the combines with attachments for coping with difficult harvest conditions. The combine operators in Yefremovskiy Rayon -- the oblast's largest grain rayon -- are performing excellent work. The workers in Yefremovskiy Rayon have harvested one third of their grain crop areas and are leading the competition among the oblast's farmers. They were the first to ship grain from the new harvest to the Krasnyy Oboz elevators. /Excerpts/ /Moscow SOVETSKAYA ROSSIYA in Russian 13 Aug 82 p 1/ 7026

VAST GRAIN TRACTS--Volgogradskaya Oblast--As always, the grain harvest in the steppe regions between the Volga and Don Rivers requires a high work tempo -- the grain tracts are immense, more than 3.5 million hectares. This year the crops are of low height on many fields and in some areas they have lodged as a result of hurricane winds. Complications were also added by rainfall, which became quite frequent following the dry spring. Under such conditions, special importance is being attached to the quality of the mowing work and to the thorough threshing of the mown grain. In all areas, work plans have been composed on farms throughout the oblast. No more than 15 days have been set aside for the harvest work. The oblast's harvest operations have increased in tempo. The farmers are striving to prevent a pause from taking place between the mowing and threshing work. Grain is being shipped to the elevators and procurement points and a noticeable flow of grain is coming from farms in the Volga region. Ships carrying grain are moving along the upper reaches of the Volga River. /by V. Drobotov/ /Excerpts/ /Moscow SOVETSKAYA ROSSIYA in Russian 6 Aug 82 p 1/ 7026

SELECTIVE MOWING OF RYE--Novgorod, 11 Aug--The selective mowing of winter rye has commenced in the southern rayons of Novgorod Oblast. A good crop is at hand. For example, the initial threshings at the Krasnyy Bor Sovkhoz furnished 25 quintals of grain per hectare. This year the farms made thorough preparations for the busy harvest season. With the commencement of the mass harvest operations, 300 mechanized detachments will move out onto the fields. These detachments were staffed based upon the principle of flow-line harvest operations. More than 800 drying and processing points have been made ready for receiving the new crop. Having supported the initiative of the Stavropol' grain growers, the Novgorod farmers have resolved to complete their grain threshing work in just 20 working days. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 12 Aug 82 p 1/ 7026

GRAIN SALES PLAN--Tatar ASSR--Accurate computations and the desire to foresee today what the situation will be tomorrow out on the fields -- such are the chief considerations which distinguish the work being performed by the farmers here during this present harvest season. The grain fields in the Tatar ASSR are vast, occupying in excess of 2 million hectares. There are 935 harvesting-transport complexes in operation, with each of them having smaller subunits which specialize in the carrying out of individual operations: threshing and transporting of the grain, stacking of straw, autumn plowing and autumn sowing. The heavy workloads being imposed upon the equipment require proper organization of servicing work: the tractor and combine operators need not search for repair workers, since the operation of the units is monitored by expert-troubleshooters. The farmers in the northern rayons -- Vysokogorskiy, Pestrechinskiy and Arskiy -- have resolved to over-fulfill their grain sales plan by 50 percent. /by M. Zaripov/ /Excerpts/ /Moscow SOVETSKAYA ROSSIYA in Russian 13 Aug 82 p 1/ 7026

GRAIN SALES TO STATE--Voronezh--The farmers of the Velikiy Oktyabr' Kolkhoz in Khokhol'skiy Rayon were the first in the oblast to fulfill their plan for selling grain to the state. More than 12,000 quintals of select wheat have been delivered to the granaries. The workers of this leading farm have also resolved to sell no less than 6,000 quintals of peas, millet and barley. Notwithstanding the inclement weather, the harvest operations out on the fields in the Upper Don region are increasing in tempo. A great amount of attention is being given to the quality of the harvesting work and to preserving the grain. The combines have been thoroughly hermetically sealed and equipped with devices for the pick-up attachments and harvester-stackers. The harvested grain is being dried out immediately. Outdoor dryers have been made available_for this purpose. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 8 Aug 82 p 1/ 7026

HIGH WORK TEMPO--Orenburg, 11 Aug--The machine operators in Orenburg Oblast are presently harvesting grain crops on their third million hectares. The work tempo is high despite the rain which has been falling. Grain is being cut down on 150,000 hectares daily. This is being promoted by a competition among those participating in the harvest work, by skilful maneuvering of the equipment, by efficient_servicing of the equipment and by fine working and living conditions. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 12 Aug 82 p 1/ 7026

PRODUCTIVE USE OF EQUIPMENT--Orenburg--The highly productive use of equipment during the harvesting of grain crops in Orenburg Oblast is the direct result of the extensive use of a progressive system of labor. More than 500 non-schedule teams have been created on the farms. The productivity of one unit belonging to such a team is higher by one third than when the work is carried out on an individual basis. The expenses are lowered by 25 percent per hectare of area harvested. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 6 Aug 82 p 1/ 7026

DIFFICULT HARVEST CONDITIONS--Orenburg Oblast--Orenburg Oblast is experiencing difficult harvest conditions. In addition to high stalk grain crop plantings on farms in the western, central and southern zones of the oblast, low-growing and sparse plantings are also being encountered. The equipment workload is rather high: more than 200 hectares for each grain harvesting combine and for a windrow harvester -- more than 160 hectares. In addition, rain is a frequent occurrence. Under these conditions, importance is being attached to maneuvering and reorganizing the work of the units depending upon the condition of the fields. But the harvest has brought to light some familiar problems. The workers in Orenburg Oblast expended considerable funds for hermetically sealing their combines and re-equipping their harvester-stackers. Only they were not placed in operation -- angle iron and wire netting, tin and a canvas bed. But does this guarantee complete hermetic sealing? Hardly. Would it not be best to commence the campaign against losses in the plant shops? We have talked about this for many years and yet no action has been taken. The oblast's machine operators are threshing grain on their second million hectares. A great amount of work lies ahead: indeed the harvest work is only commencing in the virgin land_regions, where a fine crop of grain has been cultivated. /by I. Gavrilenko/ /Excerpts/ /Moscow SEL'SKAYA ZHIZN' in Russian 10 Aug 82 p 1/ 7026

HARVESTING TRANSPORT COMPLEXES--Smolensk--The farmers in Smolensk Oblast have commenced mowing their winter crops. They prepared in advance for the busy harvest season. Approximately 500 harvesting-transport complexes having in excess of 5,600 grain combines at their disposal have been formed. The machine operators have undertaken the task of harvesting their grain crops as rapidly as possible. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 6 Aug 82 p 1/ 7026

WINTER RYE HARVEST--Izhevsk--Each day the farmers of the autonomous republic lay out their grain crops in windrows on 20,000 hectares. The farms have already mowed winter rye on their first 100,000 hectares. This represents one third of the rye fields, one of the largest rye areas in the nonchernozem zone. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 6 Aug 82 p 1/ 7026

TWO-STAGE METHOD--Orel, 6 Aug--The mass harvesting of grain crops is unfolding on farms throughout the oblast. Approximately 1,000 combines and harvesters have been moved out onto the fields. Prior to the beginning of August, the grain crops had been laid out in windrows on 15,000 hectares. At the Rodina Kolkhoz in Livenskiy Rayon, the Za Kommunizm and imeni Chapayev Kolkhozes in Uritskiy Rayon, the Zarya, Netrubezhskiy, Ostrovskiy and Ryzhkovskiy Sovkhozes and at a number of other farms the combine operators have commenced threshing the windrows. The grain is being delivered to the mechanized threshing floors on a continuous basis. The first trips with grain from the new harvest were made by drivers L. Zhidkov and A. Bogdanov of the Uritskiy Rayon Za Kommunizm Kolkhoz and D. Katukov of the Sovkhoz imeni A. Georgiyevskiy. /by I. Mironov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 7 Aug 82 p 1/ 7026

HIGH WHEAT YIELDS--Kursk--The mass harvesting of grain crops has commenced in all rayons in Kursk Oblast. A fine harvest is at hand this year. The Kursk farmers consider their chief task to include harvesting the crops down to the last kernel and delivering them intact to the granaries. Controlled threshings constitute an important means for combating grain losses at kolkhozes and sovkhozes throughout the oblast. Aware of the established cropping power for the tract to be harvested, each combine operator strives to carry out the threshing work in a high quality manner. The effectiveness of this method for organizing the grain harvest is borne out by the high yields being obtained on many farms in Belovskiy, Sudzhanskiy, Oboyanskiy and other rayons, where 40-45 quintals of winter wheat are being obtained per hectare. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 8 Aug 82 p 1/ 7026

GRAIN PROCUREMENTS--Kursk, 9 Aug--Among the rayons engaged in carrying out grain procurements, the farms in Oboyanskiy and Kurchatovskiy Rayons are considered to be the best. By the end of the first 5 days in August, they had fulfilled their grain procurement plans by more than one third. /by A. Trubnikov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 10 Aug 82 p 1/ 7026

GRAIN HARVEST EXPANDING--Kirov--The front of the grain harvest work in Kirov Oblast is moving closer and closer to the 60th parallel of latitude. The rye has already been laid out in windrows on 140,000 hectares. The work tempo is increasing. In order to prevent losses in grain and straw, the combines and harvesters on many farms are being equipped with special attachments. /Text/ /Moscow PRAVDA in Russian 9 Aug 82 p 1/ 7026

HARVEST TEMPO INCREASING--Kirov--The tempo of the harvest work is increasing at kolkhozes and sovkhozes throughout the oblast. Rye, the principal food crop in the Vyatskiy region, has been cut down on 230,000 hectares, one third of the area set aside for this crop. More than 15,000 tons of high quality grain have been delivered to the state granaries. This is considerably more than the amount for this same time last year. /Excerpts/ /Moscow SOVETSKAYA ROSSIYA in Russian 13 Aug 82 p 1/ 7026

VOLGA REGION GRAIN HARVEST--The harvest operations are in full swing out on the fields in Saratov Oblast. Winter rye, wheat and spring barley have been mown and for the most part threshed in the Zavolzh'ye rayons. The harvesting work is increasing in tempo on the right bank. For the oblast as a whole, the grain has been cut down on almost 2 million hectares, or roughly 65 percent of the entire area to be harvested. More than one half of this amount has been threshed. This year the work performed by the Volga workers is being repaid in the form of a fine harvest. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 11 Aug 82 p 1/ 7026

CSO: 1824/494

LIVESTOCK FEED PROCUREMENT

LATVIAN FEED PROCUREMENT WORK ASSESSED BY PARTY OFFICIALS

Riga SOVETSKAYA LATVIYA in Russian 5 Aug 82 p 1

/Article: "In the Central Committee of the Communist Party of Latvia"/

> /Excerpts/ The Bureau of the Central Committee of the Communist Party of Latvia has examined the question concerning the results of the month's campaign directed to procuring feed throughout the republic.

In the course of examining this question during a meeting of the Bureau of the Central Committee of the Communist Party of Latvia, it was noted that during the month's campaign aimed at procuring feed throughout the republic, which was carried out in July of this year, the municipal and rayon party committees of Latvia, municipal and rayon executive committees, municipal and rayon committees of professional trade unions, municipal and rayon komsomol committees, party and professional trade union organizations of kolkhozes, sovkhozes and other enterprises and departments belonging to the agroindustrial complex, enterprises and organizations providing support for the kolkhozes and sovkhozes and the republic's ministries and departments, after having organized extensive support for the initiative displayed by the workers of the Bauskiy Rayon Agroindustrial Association with regard to strengthening the feed base during 1982, carried out a definite amount of positive work.

During the month's campaign, work was organized on five Saturdays and Sundays involving the mass participation, for feed procurement purposes, of the residents of rural rayon centers and settlements and manual and office workers from cities throughout the republic. More than 10,000 individuals from cities of republic subordination worked out on the farms procuring feed during the month of July. In addition, manual and office workers from supporting organizations, enterprises and institutes fulfilled 185,000 shift norms during the month's campaign, including workers from cities of republic subordination -- more than 100,000 shift norms.

During the period of the month's campaign, with the active assistance of the supporting enterprises and organizations, 440,000 tons of hay and 522,000 tons of haylage were procured at kolkhozes and sovkhozes throughout the republic.

Of the overall plan for procuring 817,900 tons of feed units throughout the republic as a whole, 538,400 tons or 65 percent were procured during the month's campaign.

At the same time, it was noted during the meeting of the Bureau of the Central Committee of the Communist Party of Latvia that a number of rayons had not succeeded in making full use of the available potential for mobilizing workers to augment their feed supplies during the month's campaign. Thus the amount of grass feed procured in Limbazhskiy, Madonskiy, Tsesisskiy and some other rayons was less than the available potential.

The carrying out of the month's campaign for procuring feed promoted fulfillment of the republic's overall feed procurement plans and it also served to improve the quality of the feed. As of 2 August 1982, the kolkhozes and sovkhozes had fulfilled 95 percent of their hay procurement plan, haylage -- 77.3 percent and 59 percent of the grass meal production plan had been fulfilled. The task for laying in silage made from perennial grasses was over-fulfilled.

Fine work was carried out in connection with the procurement of hay. Compared to last year, 139,000 more tons of hay, or 37 percent, were procured in the public sector. The plan for hay production and procurements was over-fulfilled in a number of rayons throughout the republic, including Preyl'skiy, Yekabpilsskiy, Rezeknenskiy, Kraslavskiy, Ventspilsskiy and some other rayons.

A great amount of attention was given throughout the republic to those problems concerned with introducing new and progressive feed procurement technologies into operations and raising the quality of the feed. Approximately 328,000 tons of feed were procured on the farms using chemical preservatives. More than 70 percent of the hay was procured using the pressing method and 67 percent -- the method of forced ventilation. The plans for procuring feed using these technologies were fulfilled by 103 and 104 percent respectively.

In the interest of augmenting the republic's feed resources, during the month's campaign 18,000 hectares of non-plan areas were mowed and 15,000 tons of hay procured from the population. Some farms have already commenced obtaining their second cutting of grass, with more than 11,000 hectares already having been mown. In all, the plans call for a second cutting of grasses to be carried out on an area of 100,000 hectares.

At the present time, the available resources for augmenting the feed supplies by means of aftergrowth in perennial grasses, non-plan areas and other types of feed procured during the autumn have still not been exhausted.

In connection with the problem under review, the Bureau of the Central Committee of the Communist Party of Latvia adopted a decree in which mention was made of the positive work performed in procuring and improving the quality of feed in Preyl'skiy, Daugavpilsskiy, Balvskiy, Kraslavskiy, Rezeknenskiy and Yekabpilsskiy Rayons in the republic.

At the same time, it is pointed out in the decree that full use is not being made of the available potential for mobilizing workers to augment the feed supplies during the month's campaign in Limbazhskiy, Madonskiy, Tsesisskiy and some other rayons.

The attention of the Ministry of the Fruit and Vegetable Industry for the Latvian SSR has been directed towards the lag that has developed in carrying out the plans for procuring coarse feed. The ministry is under an obligation to undertake exhaustive measures aimed at ensuring unconditional fulfillment of the feed procurement plans.

It is pointed out in the decree that the rayon and municipal committees of the Communist Party of Latvia, the rayon and municipal executive committees, the rayon agroindustrial associations and the republic's Ministry of Agriculture and Ministry of the Fruit and Vegetable Industry must continue the work of procuring and accumulating feed. In addition, they must ensure that the backward farms are supplied with feed and specific practical assistance. Urgent measures must be undertaken to ensure the unconditional fulfillment by each kolkhoz and goskhoz of the established plans for the production and procurement of hay, haylage, silage, root crops, artificially dehydrated feed and other types of feed.

The Bureau of the Central Committee of the Communist Party of Latvia has obligated the rayon and municipal committees of the Communist Party of Latvia, the rayon executive committees, rayon agroindustrial associations, the republic's Ministry of Agriculture and Ministry of the Fruit and Vegetable Industry and the farm leaders and specialists to attach special importance to those problems concerned with raising the quality of the feed being procured and to ensure that the crops are harvested from the fields and delivered to the barns and storehouses in a timely manner. The feed must be fully preserved in all areas and all possibilities for spoilage or losses caused by fire eliminated.

In order to achieve fulfillment of the planned volumes for procuring all types of feed, full use must be made of the aftergrowth of perennial grasses, non-plan mowing areas and also the straw, chaff and haulm of plants and other feed resources. Grass feed procurement work must be continued throughout August and September of this year.

In the decree, emphasis is placed upon the fact that the rayon and municipal party committees and the primary party organizations, in addition to organizing the crop harvesting operations, must exercise constant control over the organization of the work being performed by kolkhoz and sovkhoz workers, supporting organizations and other elements of the population engaged in carrying out feed procurement work. Organizational measures must be carried out in connection with introducing the initiative of the people's deputies in Saratov Oblast, under the slogan "Preserve Everything That Has Been Grown," in connection with organizing feed procurements in the republic.

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FOOD PROGRAM GOALS FOR BELORUSSIAN SSR OUTLINED

Minsk SEL'SKOYE KHOZYAYSTVO BELORUSSII in Russian No 7, Jul 82 pp 2-3

/Article: "Agroindustrial Complex: Prospects for Development"/

/Text/ At the present time, the workers in the Belorussian countryside, similar to all workers in our republic, are living and working under the increasing influence of the historic decisions handed down during the May (1982) Plenum of the CC CPSU. A persistent struggle is underway on the kolkhoz and sovkhoz fields and farms aimed at increasing the production of farming and animal husbandry products and successfully fulfilling the plans for the second year of the 11th Five-Year Plan.

Each grain grower, livestock breeder, machine operator, land reclamation specialist leader and specialist is well aware that the USSR food program approved by the Plenum and developed on the initiative of Comrade L.I. Brezhnev represents a new step taken towards improved national economic planning and control. It is a most important component part of the party's economic strategy for the next decade and it embodies large-scale measures for developing the productive forces of the socialist society and improving social relationships in the countryside.

The 7th Plenum of the Central Committee of the Communist Party of Belorussia, which convened in the city of Minsk on 4 June of this year, outlined a prepared program for the further development of kolkhoz and sovkhoz production. The Plenum listened to a report delivered by Candidate Member of the Politburo of the CPSU Central Committee and 1st Secretary of the Central Committee of the Communist Party of Belorussia Comrade T.Ya. Kiselev "Results of the May (1982) Plenum of the CPSU Central Committee and the Tasks of the Republic's Party Organizations As Derived From the Report by Comrade L.I. Brezhnev Concerning the USSR Food Program for the Period Up To 1990 and Measures for Carrying It Out."

In the decree of the Central Committee of the Communist Party of Belorussia concerning this problem, it is noted that by implementing the program developed during the March (1965) Plenum of the CPSU Central Committee the party, soviet, economic organs and labor collectives achieved considerable results in developing agricultural production and strengthening its logistical base.

Since 1965, capital investments in agriculture in Belorussia have amounted to almost 16 billion rubles, or 4.8 times more than for all of the preceding years of Soviet rule. The fixed productive capital of kolkhozes and sovkhozes increased by a factor of almost 5, the power-worker ratio -- by a factor of 4.2 and labor productivity -- by twofold. The areas of drained land were expanded by 1.6 million hectares. During the 10th Five-Year Plan, the average annual volume for the production of agricultural goods increased by a factor of 1.6 above the figure for the 7th Five-Year Plan. The procurements of agricultural products increased. The per capita level of consumption for meat and meat products was raised by 36 percent, milk and dairy products -- by 23 percent and eggs -- by a factor of 2.5.

A great deal has been accomplished with regard to improving the working and living conditions of sovkhoz and kolkhoz workers. Over a period of three five-year plans, 21.2 million square meters of housing space were built by means of state capital investments and the resources of kolkhozes and the population. An expansion has taken place in the network of schools, hospitals, kindergartens and nurseries, clubs and trade and domestic services enterprises. The wages of agricultural workers have been increased and their pension and social insurance systems have been improved. The professional and cultural level of rural workers has been raised.

However the potential of the republic's agroindustrial complex is still not being utilized fully for intensifying the production and improving the quality of food products. Agriculture and its associated branches are still only slowly converting over to the intensive path of development. A proper return from invested resources is still not being obtained at all of the kolkhozes and sovkhozes. Nor is efficient use being made in all areas of the land, equipment, fertilizer and other production resources. Great differences are being observed in the cropping power of fields and in the productivity of farms. Considerable output losses are being tolerated during the procurement, storage, transporting, processing and sale of the products. The enterprises and organizations which provide services for agriculture, both organizationally and economically, maintain only weak contacts with the kolkhozes and sovkhozes.

The Plenum of the Central Committee of the Communist Party of Belorussia has defined the specific tasks for further raising the operational efficiency of both agriculture and its associated branches of industry. A chief consideration today is that of achieving decisive improvements in the use of each hectare of land and raising the cropping power of fields.

For the 11th Five-Year Plan, the task has been assigned of raising the republic's average annual production of grain to 7.8-8.1 million tons and during the 12th Five-Year Plan -- to 8.2-8.6 million tons, in Brest Oblast -- to 1.09-1.12 and 1.15-1.21 million tons, in Vitebsk Oblast -- to 1.36-1.42 and 1.44-1.52, in Gomel' Oblast -- to 1.18-1.23 and 1.25-1.3, in Grodno Oblast -- to 1.21-1.26 and 1.27-1.33, in Minsk Oblast -- to 1.65-1.71 and 1.73-1.81 and in Mogilev Oblast -- to 1.3-1.34 and 1.36-1.42 million tons respectively. In addition, stable growth must be achieved in the gross yield of grain obtained from winter rye and pulse crops.

During the 11th and 12th Five-Year Plans, the average annual production of potatoes is to be raised to 12.5-13.5 million tons, in Brest Oblast -- to 1.99-2.15 million tons respectively, in Vitebsk Oblast -- to 1.52-1.63, in Gomel' Oblast -- to 2.28-2.47, in Grodno Oblast -- to 1.77-1.91, in Minsk Oblast -- to 2.96-3.2 and in Mogilev Oblast -- to 1.98-2.14 million tons. Work must also be completed on the creation of specialized zones for the raising of marketable potatoes on an industrial basis.

The gross yields of vegetables in the republic must be increased by a factor of 1.2 during the decade and their average annual production during this current five-year plan must reach 840,000 tons, during the 12th Five-Year Plan -- 866,000 tons, in Brest Oblast -- 114,000 and 119,000 tons respectively, in Vitebsk Oblast -- 115,000 and 118,000 tons, in Gomel' Oblast -- 164,000 and 169,000, in Grodno Oblast -- 88,000 and 92,000, in Minsk Oblast -- 237,000 and 241,000 and in Mogilev Oblast -- 122,000 and 127,000 tons.

Based upon the introduction of an industrial technology for cultivating and raising the cropping power of sugar beets in the republic, the annual production during the 11th and 12th Five-Year Plans should be not less than 1.39 million tons, in Brest Oblast -- 534,000 tons, in Grodno Oblast -- 442,000 and in Minsk Oblast -- 415,000 tons.

Over the course of the decade, the gross yield of fruit and berries must be increased by a factor of 1.4. During the 11th Five-Year Plan, their average annual production must be 500,000 tons and during the 12th Five-Year Plan -- 595,000 tons, in Brest Oblast -- 82,000 and 98,000 tons respectively, in Vitebsk Oblast -- 62,000 and 74,000, in Gomel' Oblast -- 114,000 and 136,000, in Grodno Oblast -- 52,000 and 62,000, in Minsk Oblast -- 100,000 and 119,000 and in Mogilev Oblast -- 90,000 and 106,000 tons.

One very important task is that of further accelerating the stable production of grain. The complete and rational utilization of all available resources for organic and other local fertilizers must be ensured at each farm. A scientifically sound system of farming must be persistently introduced into operations. During the current five-year plan the production of seed for grain crops must be converted over to an industrial basis and the introduction of new and highly productive varieties into production operations must be accelerated.

Importance is being attached in all areas to accelerating the creation at kolkhozes and sovkhozes and at organizations of Belsel'khozkhimiya of the logistical base required for the use of chemical processes. Greater emphasis must be placed upon the construction and placing in operation of storehouses, technical servicing stations for machines, take-off and landing sites, manure-pits and other installations and losses in organic and mineral fertilizers, liming materials and plant protection agents must be reduced to the maximum possible degree. The agrochemical service must display greater responsibility for the judicious and efficient use of these materials.

The plans call for large-scale land reclamation measures, for the agricultural development of these lands and for obtaining the planned agricultural crop cropping power from them. Over the course of the decade it will be necessary to place in operation 110,000 hectares of irrigated land and to drain 950,000-970,000 hectares of waterlogged areas and swamp land. The construction of anti-flood protection installations is being completed in the zone of the Polesskaya Lowland.

One priority task is that of ensuring the unconditional fulfillment of the production volumes for livestock products as called for in the food program. During the 11th Five-Year Plan the average annual production of meat at all categories of farms in the republic (in dressed weight) must be raised to 1 million tons and during the 12th Five-Year Plan -- to 1.1-1.2 million tons, in Brest Oblast -- to 160,000 and 175,000-190,000 tons, in Vitebskaya Oblast -- to 155,000 and 170,000-185,000, in Gomel' Oblast -- to 170,000 and 190,000-210,000, in Grodno Oblast -- to 160,000 and 175,000-190,000, in Minsk Oblast -- to 215,000 and 235,000-260,000 and in Mogilev Oblast -- to 140,000 and 155,000-165,000 tons.

Importance is being attached in all areas to converting over to intensive methods for livestock production management, to reducing the livestock fattening periods and to raising considerably the productivity of all types of livestock and poultry.

In addition to expanding the capabilities of industrial type hog raising complexes, the production of pork on farms at non-specialized facilities must be expanded considerably. More complete use must be made of the potential for increasing the meat resources by raising the production of mutton and poultry and rabbit meat.

Consistent work must be carried out in connection with raising the productivity of dairy cattle husbandry. During the 11th Five-Year Plan the average annual production of milk in the republic must be raised to 6.5-6.7 million tons, during the 12th Five-Year Plan -- to 6.9-7.0 million tons, in Brest Oblast -- to 1.02-1.05 and 1.09-1.11 million tons respectively, in Vitebsk Oblast -- to 1.08-1.11 and 1.15-1.11, in Gomel' Oblast -- to 1.18-1.22 and 1.25-1.27, in Grodno Oblast -- to 905,000-935,000 and 960,000-970,000 tons, in Minsk Oblast -- to 1.41-1.45 and 1.5-1.51 and in Mogilev Oblast -- to 895,000-925,000 and 945,000-975,000 tons. By 1990, the average milk yield per cow is to be raised by 600-700 kilograms.

The decree of the Central Committee of the Communist Party of Belorussia calls for a further strengthening of the feed base for the republic's livestock production operations and intensification of field and meadow feed production. Persistent work must be carried out aimed at raising the cropping power of forage crops and natural haying and pasture lands, introducing progressive technologies into this branch for the procurement, storage and use of feed and creating reliable feed supplies for public livestock production and for the livestock being maintained on a private basis by citizens.

For 1982 the task has been assigned of achieving substantial growth in the productivity of farming and livestock production and unconditional fulfillment of the annual state plans for procurements of grain, potatoes, meat, milk and other products. The crops must be tended in a timely manner and the preparations for the harvest operations must be carried out in an organized and successful manner. Measures must be developed at each kolkhoz, sovkhoz and at all enterprises of the agroindustrial complex aimed at combating product losses and ensuring continuous operations by the procurement, transport and trade organizations.

The plans call for science to play a greater role in the development of the agroindustrial complex and in promoting a more successful implementation of the food program. Special attention must be given to creating highly productive agricultural crop varieties and livestock breeds and strains and to developing progressive technologies for the production, storage and processing of agricultural products, with minimal expenditures for labor and energy resources. The work of accelerating the introduction into operations of scientific achievements and leading experience must be intensified.

Special attention must be given to ensuring the timely and high quality processing of all agricultural products produced in the public sector and on the private plots of citizens. The construction of storehouses at kolkhozes and sovkhozes and at trade and processing enterprises and also receiving and sorting points and shops for the primary processing of raw materials must be carried out at greater rates.

Extensive use must be made of progressive methods for procuring, transporting and storing products, the network of procurement enterprises must be expanded and they must be located as close as possible to the production areas. More direct contacts must be established between the trade organizations on the one hand and the kolkhozes, sovkhozes and other enterprises of the agroindustrial complex on the other. A requirement exists for organizing procurements from the population of surplus agricultural products and also wild fruit, berries and mushrooms.

Constant concern must be displayed for developing the private plots of citizens and horticultural collectives. Conditions must be created for ensuring that each family residing in the rural areas is able to maintain cattle, hogs, sheep and poultry. More active work must be carried out in connection with creating subsidiary farms at industrial enterprises and organizations. Such farms should include the construction of hothouses, livestock production facilities and also storehouses for fruit and vegetable products.

Importance is attached to ensuring the consistent implementation of measures directed towards the social development of the countryside and raising the level of well-being, culture and medical and domestic services for its inhabitants. More attention must be given to further improving housing conditions for the people, perfecting the building systems and organizing public services and amenities in the populated points. During the 11th Five-Year Plan, 6.8 million square meters of housing space will be built at kolkhozes and sovkhozes throughout the republic, including more than 2 million square meters using the resources of kolkhoz members, manual and office workers and the rural intelligentsia. The construction of schools, kindergartens and nurseries, clubs, libraries, medical institutes and trade, public catering and domestic services enterprises must be carried out at rapid rates. The capital investments allocated for road construction during the current five-year plan must be utilized in a timely manner, the length of the autobus lines must be increased and reliable transport communications must be organized for the kolkhozes and sovkhozes with the rayon centers.

Specific measures have been outlined for strengthening cost accounting and reducing production costs and the cost of services at kolkhozes, sovkhozes, industrial enterprises and construction organizations of the agroindustrial complex. Measures must be developed and implemented in all areas aimed at stimulating the work of collectives, leaders and specialists, depending upon the final production results and growth in profits at the kolkhozes and sovkhozes serviced. The experience accumulated in use of the brigade contract method and also by teams employing the job contract plus bonus wage system for output must be disseminated on a more extensive scale. Special attention must be given to improving the activities of backward farms. Such farms should be ensured high rates for production growth and a sharp reduction in expenditures per unit of output and they should be provided with maximum assistance in developing their logistical base and in obtaining the required personnel.

The party committees and organizations and the soviet and economic organs must exercise greater control to ensure fulfillment of the democratic principles of agricultural control and the requirements set forth in the Kolkhoz Regulations. The schedules for conducting general meetings for kolkhoz members, meetings for authorized representatives and the sessions for kolkhoz administrations must be followed in a very strict manner and greater importance must be attached to the role played by production conferences and worker meetings at sovkhozes. The rural workers must display greater activity in solving the problems of intra-farm life.

The rayon committees of the Communist Party of Belorussia are obligated to achieve more efficient interaction between all elements of the agroindustrial complex and to raise the level of personnel work being carried out at kolkhozes, sovkhozes and interfarm enterprises and associations. All production sectors must be headed by workers who are capable of mobilizing the collectives towards fulfillment of the food program.

Greater use must be made of the opportunities afforded by a socialist competition. Every attempt must be made to ensure that it encompasses and serves to develop the interest of each collective and each worker in the agroindustrial complex in carrying out the production plans and socialist obligations and in achieving high final results. This work must be carried out based upon the further introduction of cost accounting principles, the development and strengthening of creative collaboration with the collectives of allied production efforts, the efficient carrying out of contractual obligations and upon strict observance of planning discipline.

Highly effective use must be made of the system of party and economic training and all forms of mass propaganda and agitation. This will make it possible to provide extensive and effective explanations and to study the materials of the May (1982) Plenum of the CC CPSU, the report delivered during the Plenum by Comrade L.I. Brezhnev and other documents adopted during the Plenum. The personnel, communists and all municipal and rural workers must be provided with a correct understanding of the new tasks of the party's agrarian policies, as embodied in the food program, a program designed to improve the well-being of our people and to achieve further prosperity for our homeland.

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AGRO-ECONOMICS AND ORGANIZATION

BELORUSSIAN SSR MEASURES WILL DEVELOP PRIVATE PLOTS

Moscow SEL'SKAYA ZHIZN' in Russian 4 Sep 82 p 2

[Article: "This Is a Common Cause"]

> [Text] The Collegium of the USSR Ministry of Agriculture has examined the question of the work of Belorussian agricultural organs with regard to the organization of production and the procurement of agricultural products from private plots of citizens.

There are 1,657,000 private plots in Belorussia. Agricultural organs, kolkhozes and sovkhozes provide a purposeful, organizational and explanatory service among the population for the further development of the rural homestead, extend specific aid to private farms by providing them with the young of large horned cattle, with piglets, poultry and livestock feed. Last year 678,200 piglets, 10.7 million chicks, ducklings, goslings and young turkeys, 25,000 heifers and first calf heifers, 1,316 cows and 85,000 breeding rabbits were sold to the population. In addition, many productive cattle and young animals were sold through kolkhoz markets. The overall sale of livestock and poultry to the population is constantly increasing.

Last year in the system of payment in kind to the population for agricultural products supplied by it, 891,000 tons of hay, 334,000 tons of straw, 44,000 tons of potatoes, 232,000 tons of feed grain and 327,000 tons of mixed feed were issued and sold. The USSR Gosbank issued R296 million of credit to the population to acquire cows and heifers.

Many farms are improving the ways and methods of extending aid to the population in maintaining private plots--in cultivating private land strips, selection and support of herdsmen, and equipment and improvement of pastures.

The administration of the "Rodina Yakuba Kolasa" kolkhoz of Stolbtsovskiy Rayon, Minsk Oblast, for example, has allotted 80 hectares of cultivated pastures for the grazing of private cattle, and 61 hectares of improved hay fields for feed procurement. In the period of feed procurement, part of the hay, straw and root crops is allocated to kolkhoz farmers. One-half kilogram of mixed feed is supplied for each kilogram of milk sold to the state, and twice as much for a kilogram of meat.

The practice of allocating supplementary land strips for the purpose of raising feed crops to citizens who are fattening cattle by contracts is a matter of interest. Thus, 253 hectares are presently assigned for these purposes in Volkovysskiy Rayon of Grodno Oblast. Many farms of the oblast are extending aid to citizens for keeping sows for later sale of piglets to the population. For example, in the "Shilovichi" sovkhoz of Volkovsskiy Rayon, for each household where there is a sow and piglets are sold to sovkhoz workers, there is an allocation of a quintal of grain forage and up to .05 hectares of additional land.

Centers which hire out equipment and supplies are organized in 33 rayons of the republic. These, as well as communal services for farms, enjoy much popularity. They extend aid to the population in tilling private plots, transporting feed and fuel, procuring and cutting firewood, constructing farm housing and laying water conduits. In-yard structures for collective use are being built in the republic to keep cattle and poultry.

As a result of measures taken in private plots of the republic, the number of large horned cattle, swine, sheep, goats and poultry is increasing, as well as the sale of their products. Thus, the sale of meat by the population has increased during the first half year in comparison with the same period last year by 17 percent, and of milk, by 18 percent. However, the potential for increasing production in the private sector is far from fully utilized. The demand of the population for piglets, young stock of dairy cattle and poultry is not being satisfied. In a number of places the receiving of rabbits and poultry for breeding is poorly organized, as well as the purchase of eggs from the population.

In the decree adopted the Collegium has laid out practical measures for extending aid to the population in maintaining private plots and increasing the output of agricultural products.

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TILLING AND CROPPING TECHNOLOGY

ADVANTAGES OF BALANCED METHOD OF FERTILIZER CALCULATIONS SET FORTH

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 5, May 82 pp 48-51

/Article by P. Arakcheyev, agronomist, Kaluga: "Advantages of Balanced Method"/

/Text/ As is well known, fertilizer doses have the most direct effect on the amount of the harvest. Under their effect soil changes from one qualitative state into another, which can be positive and negative. The nutrient balance in farming also points to this.

A balance implies a comparison of two processes, that is, income and expenditure of nutrients. Income (Д) is the doses of applied fertilizers and expenditures (B), nutrients going into the formation of the harvest and compensation for losses resulting from erosion and denitrification.

Depending on income and expenditure the balance can be passive (Д:B<1.0). In it the fertility of soil and the harvests of crops are lowered sharply. The other type of balance is equilibrated (Д:B=1.0). In it the fertility of soil and harvests are stable and their annual changes are negligible. Finally, the third type, that is, active (Д:B>1.0)--the fertility of soil and harvests rise to the maximum.

The nutrient balance in farming reflects well the interrelationships and interactions of soil, harvests and fertilizers. As D. N. Pryanishnikov noted, a disruption in these relationships leads to the fact that most of the removal is compensated not by fertilizers, but through a reduction in the reserve of nutrients in soil. Naturally, this hampers an increase in harvests. At the same time, excessive doses of fertilizers, especially nitrogen fertilizers, should not be appli . This is not justified economically and is even harmful.

It is well known that doses of mineral fertilizers and the ratio of nutrients in them are nonconstant values. They depend on the amounts of planned harvests ar on soil fertility.

Chief agronomists of farms should correctly calculate fertilizers for the planned harvest of every crop not only as a whole, but also for departments, brigades and crop rotation fields. Coefficients of utilization by the plant of soil nutrients and applied fertilizers are used in the currently recommended methods of calculation--there are about 20 of them. However, in the opinion of some scientists, in practice, it is impossible to use them, because they are too indefinite (for example, there are more than 10 for P_2O_5).

All this requires the development of more efficient methods of determination of fertilizer doses.

Soil is customarily subdivided into six groups according to the content of humus, phosphorus and potassium. Groups are also differentiated according to the activity of microbiological processes and the harvest.

Experiments conducted in a number of scientific research institutes confirm this. For example, the experiments of the Latvian SSR Scientific Research Institute of Grain Farming demonstrated the functional dependence of rye harvests on the agrochemical properties of soil and doses of nitrogen fertilizers.

In particular, the same dose of these fertilizers on soil with a varying content of phosphorus produces a varying harvest increase. A total of 30 kg of nitrogen per hectare of soil having 2 mg of P_2O_5 per 100 g increased the harvest by 4.5 quintals per hectare. However, on soil containing 15 mg the increase was 7.8.

It would seem that, as nitrogen doses are enlarged, increases are bigger. In fact, however, doses of 60 and 90 kg, when the content of phosphorus was 15 mg, did not have advantages over a dose of 30 kg, producing an increase of 7.4 and 6.8 quintals respectively. The investigations of many scientists show that, as the content of nutrients in soil increases, all things being equal, crop harvests rise. However, the effectiveness of nitrogen-phosphorus fertilizer doses of more than 30 kg of the active substance per hectare on soil containing more than 15 mg of phosphorus decreases.

In our opinion, this pattern is the most reliable basis for the development of the method of determination of fertilizer doses, planning of the need for them and distribution, for which it is necessary to first of all establish quantitative differences among soil groups according to the content of nutrients in them and effective fertility. These differences are expressed by a coefficient (K).

For example, for phosphorus K is determined according to the average indicators of its content in soil groups (table 1).

Coefficients for the content of potassium, calcium and other macro- and microelements are also determined similarly.

For nitrogen, since there are no cartograms for its content in soil, K is determined with due regard for the recommendations of scientific institutions for the maintenance of the nitrogen balance and the effectiveness of nitrogen applied with fertilizers to various soil groups. Its fixation by soil--up to 20 percent--and losses as a result of denitrification--up to 25 percent--are also taken into consideration.

The Soil Institute imeni V. V. Dokuchayev recommends the maintenance of a positive or at least equilibrated nitrogen balance on soddy-podzolic-type soil poor in organic substance and humus. It is quite clear that with denitrification of 25 percent, in order that the nitrogen balance may be equilibrated, its dose (Д) should be equal to the expenditure or removal (B). For a positive nitrogen balance the dose should be 20 percent higher than the removal. The formula of the coefficient for soil of the first group is derived as follows:

$$\text{Д}=B+\frac{B\mathrm{X}20}{100}$$

The ratio of $\text{Д}:B=K$. Hence:

$$K=B+\frac{B\mathrm{X}20}{100}:B=1.20$$

Table 1

Groups of soil	Content of P_2O_5 in mg//100 g of soil according to Kirsanov		Coefficients	
	maximum	average	of difference in soil according to the content of phosphorus (in relative numbers)	of effective soil fertility (in points)
I	1-2.5	1.75	3.75:1.75=2.10	100:2.14=48
II	2.6-5	3.75	7.5:3.75=2.0	100:2.0=50
III	5.1-10	7.5	12.5:7.5=1.7	100:1.7=60
IV	10.1-15	12.5	20:12.5=1.6	100:1.6=63
V	15.1-25	20.0	25:20=1.3	100:1.3=77
VI	>25	>25.0	25:25=1.0	100:1.0=100

Coefficients for other groups are determined as follows: K of the first group is reduced by the factor by which effective soil fertility is higher than the effective fertility of the first group. For this the indicator of effectiveness of the first group of soil is multiplied by K of nitrogen accepted for this group and the obtained product is divided by the coefficient of effective fertility of each subsequent group. The table of K of nitrogen according to soil groups appears as follows:

$$K_1=1.2$$
$$K_2=48\mathrm{X}1.2=57.6:50=1.1$$
$$K_3=57.6:60=1.0$$
$$K_4=57.6:63=0.9$$
$$K_5=57.6:77=0.8$$
$$K_6=57.5:100=0.6$$

Subsequently, we will call these coefficients, being the key to the solution of practical problems of fertilizer dosage, coefficients of compensation (K_B), whic in a given case indicate what part of the nutrients necessary for the planned harvest should be applied to soil in the form of fertilizers.

It is better to saturate soil with phosphorus and potassium in three stages and, primarily, on soil with a low content of nutrient elements. For the convenience of use we arranged K of nitrogen, phosphorus and potassium according to types and groups of soil (table 2).

During a calculation of fertilizer doses for the planned harvest with due regard for the fertility of arable land these coefficients make it possible to have an active P_2O_5 balance in soil of the first, second and third groups at the first stage, an equilibrated balance, of the fourth group and a passive balance with the application of 10 to 15 kg of the active substance of P_2O_5 per hectare to rows during sowing, of the fifth and sixth groups.

Table 2

Groups of soil	Content of P_2O_5 and K_2O in mg/ /100 g of soil according to Kirsanov		Soil					
			Soddy-podzolic loamy and grey forest			soddy-podzolic loamy		
	P_2O_5	K_2O	N	P_2O_5	K_2O	N	P_2O_5	K_2O
First stage								
I	<2.5	<4	1.2	2.5	1.3	1.3	2.6	1.4
II	2.6-5	4.1-8	1.1	2.0	1.2	1.2	2.2	1.3
III	5.1-10	8.1-12	1	1.5	1.0	1.1	1.6	1.1
IV	10.1-15	12.1-17	0.9	1.0	0.5	1.0	1.1	0.6
V	15.1-25	17.1-25	0.8	0.3	0.3	0.9	0.4	0.3
VI	>25	>25	0.6	0.2	0.2	0.8	0.3	0.2
Weighted mean			0.9	1.3	0.8	1.1	1.4	0.8
Second stage								
IV	10-15	12-17	0.9	1.5	1.2	1.0	1.5	1.2
V	15.1-25	17.1-25	0.8	1.0	1.0	0.9	1.0	1.0
VI	>25	>25	0.6	0.3	0.2	0.8	0.3	0.2
Weighted mean			0.8	0.9	0.8	0.9	0.9	0.8
Third stage								
V	15-25	17-25	0.8	1.5	1.2	0.9	1.5	1.2
VI	>25	>25	0.6	1.0	1.0	0.8	1.0	1.0
Weighted mean			0.7	0.8	1.1	0.9	1.3	1.1

At the second stage an active P_2O_5 balance is established in the soil of the first four groups, an equilibrated balance, of the fifth group and a passive balance, of the sixth group (at the same time, as much of the active substance as at the first stage is applied).

At the third stage in the soil of the first five groups the P_2O_5 balance is active and only in the soil of the sixth group, equilibrated.

The nitrogen and potassium balance in the soil of the first and second groups is active, of the third group, equilibrated and of the fourth, fifth and sixth groups, passive. The nitrogen deficit on this soil is compensated by the fixed nitrogen of applied fertilizers and through the decomposition of root and aftermath residues of plants and microorganisms, which during the period of vegetation accumulate from 20 to 50 kg of atmospheric nitrogen per hectare. The deficit of potassium in the soil of the fourth, fifth and sixth groups is compensated by nonexchange potassium.

The following formula is recommended for a calculation of fertilizer doses for the planned harvest:

$$\text{Д}=\text{У}_{\text{П}}\text{ХВХК}_{\text{В}}-\text{И},$$

where

Д is the nutrient element dose (in kg of the active substance per hectare);
$\text{У}_{\text{П}}$ is the planned harvest (quintals per hectare);
В is the removal of the element by the harvest (kg/quintal of basic output);
$\text{К}_{\text{В}}$ is the coefficient of compensation (in relative numbers);
И is the amount of the element utilized by the plant from organic fertilizers, root and aftermath residues of perennial grass and lupine and other sources (in kg per hectare).

Fertilizer doses were calculated according to this formula under production conditions and were checked as compared with the doses established by the calculated method and by the Radoz method. Here are some data.

Calculations of fertilizer doses for the planned barley harvest were performed on the Avchurino Sovkhoz. Of the three doses the dose calculated by the balanced method proved to be the most effective (table 3). It should be noted that, whereas the dose calculated by the Radoz method ($N_{90}P_{90}K_{60}$) increased the harvest by 5.5 quintals per hectare, the dose calculated by the balanced method, 6.3.

Table 3

Experimental scheme	Harvest (q/ha)		Increase in harvest		Increase in harvest per quintal of NPK, (q)
	plan	actual	q/ha	%	
Control used		35.3		100.0	
$N_{90}P_{90}K_{60}$	30	40.8	5.5	115.6	2.3
$N_{70}P_{75}K_{0}$	30	41.2	5.9	116.7	4.0
$N_{75}P_{43}K_{33}$	30	41.6	6.3	117.8	4.2

The data obtained during the calculation of doses for winter wheat on grey forest soil with pH of 5.7, a phosphorus content of 5 mg and a potassium content of 13 mg per 100 grams of soil (according to Kirsanov) are no less interesting.

With the balanced method (table 4) the need for fertilizers for almost the same harvests was much smaller than with the calculated method. Furthermore, the income per ruble of fertilizer cost was 1.5 times as high.

When planning the expenditure of fertilizers for a year, it is necessary to distribute them according to individual crops and types of mineral fertilizers. At the same time, it is necessary to take into account the planned yield, the need of crops for nutrient elements and their presence in soil. The following formula was derived for this:

$$T=\text{Пс}\ (\text{У}_{\text{П}}X\text{В}X\text{К}_{\text{В}}-\text{И}):100,$$

where T is the need for the nutrient element (in quintals of the active substance)
Пс is the crop sown area (hectares)

Table 4

Methods of calculation of NPK doses	Harvest plan (q/ha)	Fertilizer doses (kg of active substance per hectare)				Actual harvest (q/ha)	Increase (q/ha)	Harvest increase per quintal of NPK
		N	P	K	NPK			
Control						27.8		
Calculated	40	152	185	0	337	42.5	14.7	4.4
Balanced	40	132	88	92	312	43.1	15.3	4.9
Calculated	60	274	315	12	601	44.8	17.0	2.5
Balanced	60	200	133	138	471	42.1	14.3	3.0

The distribution of fertilizer stocks throughout oblasts, rayons, farms and, within farms, throughout departments, brigades and links, as well as throughout crop rotation fields, requires the conversion of the entire sown area into standard arable land. This is due to the fact that in every rayon and farm soil differs in fertility and a large number of crops with a different specific weight, yield and need for nutrients are sown.

To convert arable land or agricultural areas into standard arable land, it is necessary to multiply each type and group of soil by the appropriate coefficient of compensation. Then the results are summed up. The conversion is not performed annually, but only after each agrochemical examination of land.

Some farms in Kaluga Oblast converted physical arable land into standard arable land according to the content of phosphorus, following the data of the oblast administration of agriculture (table 5).

Table 5

Soil	Total physical arable land	Including according to groups of phosphorus content (according to Kirsanov)						Total standard arable land (thous. ha)
		I	II	III	IV	V	VI	
Soddy-podzolic loamy and grey forest	789	176	231	225	78	42	37	1338
Coefficient of compensation according to groups		2.5	2.0	1.5	1.0	0.3	0.2	

As can be seen from the table, for conversion it is sufficient to multiply the amount of physical arable land by the coefficient and to sum up the results: 176X2.5+231X2+225X1.5+78X1+42X0.3+37X0.2=1,338,000 hectares. The conversion of physical arable land into standard arable land is performed by the same method for nitrogen and potassium with the application of the appropriate K_B.

The standard area of arable land is the generalized weighted mean indicator of the provision of soil with phosphorus and is evaluated at 100 points.

In accordance with this the entire physical arable land in the oblast in terms of the content of phosphorus is evaluated at 59 points--(789.0X100):1,338.

Soil is also evaluated similarly in terms of the content of nitrogen and potassium in it.

The distribution of fertilizer stocks throughout rayons--when doses are calculated by the balanced method--is carried out according to the following formula:

$$Ф_p = \frac{Ф_o X Б_o}{B_o} X \frac{B_p}{Б_p},$$

where

$Ф_p$ is the fertilizer stocksof a rayon
(in thousand quintals of the active substance)
$Ф_o$ is the fertilizer stocks of an oblast
(in thousand quintals of the active substance)
B_o is the removal of the element by the harvest in an oblast
(in thousand quintals of the active substance)
$Б_o$ is the point of soil evaluation in an oblast
B_p is the removal of the element by the harvest in a rayon
(in thousand quintals of the active substance)
$Б_p$ is the point of soil evaluation in a rayon

Substituting the appropriate data into the formula and performing simple calculations, we will obtain fertilizer stocks for every rayon. In the same way, using this formula, fertilizers are distributed throughout farms, departments, brigades and links.

When determining doses, planning the need and distributing stocks of nitrogen fertilizers for the planned harvest on flood plain-meadow soil and peat bogs, where the content of humus and nitrogen predominates over the content of phosphorus, it is necessary to apply K established for soil of the fifth and sixth groups (0.8 or 0.6). However, for soil with a high natural level of phosphorus content and a low natural level of humus and nitrogen content, as is the case on a number of farms in Zhizdrinskiy, Khvastovichskiy and Duminichskiy Rayons, it is necessary to use K for soil of the first or second groups (1.2 or 1.1).

For the harvest of winter crops (wheat or rye) placed on unfertilized plots and of spring crops placed on spring-plowed areas the doses of nitrogen fertilizers are increased by 15 to 20 percent. When the sowings of these crops are placed on clean early fallow, they are reduced by 10 to 15 percent.

When fertilizer doses for the planned harvest are calculated by the balanced method, the aftereffect of mineral fertilizers and soil acidity are not taken into consideration. In other words, fertilizer residues increase the productive potential of soil and specified amounts of lime should be applied to soil with an increased acidity. However, when fertilizers are applied as a reserve for two or three crops in advance, their aftereffect should be taken into consideration.

Since an agrochemical soil inspection is made every 4 or 5 years and in a number of cases fertilizers are applied not every year and in different doses, it is necessary to annually record the balance of nutrients--their entry into soil in the form of fertilizers and expenditure on the formation of the harvest for every farm and crop rotation field. This is done according to the following simplified scheme:

No of field	Area	Agrochemical characteristics of soil	Crop	Harvest q/ha	Removed in 1980	Removed by Harvest	Remained in soil in 1981
		pH, P_2O_5, K_2O			N, P_2O_5, K_2O	N, P_2O_5, K_2O	N, P_2O_5, K_2O

Such an annual record of the NPK balance in farming is very necessary to the agronomist for the determination of the planned yield and the distribution of fertilizers throughout crop rotation fields for the following year. Without these data work will proceed blindly and fertilizers will be utilized "by eye."

What are the advantages of the balanced method of calculation of doses and distribution of fertilizers? It makes it possible to expend fertilizer stocks in a strictly differentiated manner and to increase the effectiveness of fertilizers.

From the editorial board:

Publishing P. Arakcheyev's article, we are not concluding the discussion on an efficient and scientifically substantiated utilization of mineral fertilizers. We invite scientists, farm managers and specialists to share their thoughts on the mentioned problem, to discuss their experience and to make proposals. We are awaiting your letters!

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TILLING AND CROPPING TECHNOLOGY

MEASURES FOR INCREASING VEGETABLE, FRUIT OUTPUT IN UKRAINE

Kiev PRAVDA UKRAINY in Russian 11 Aug 82 p 2

/Article by V. Lisitsyn, UkSSR minister of fruit and vegetable industry: "Vegetables on Irrigated Land"/

> /Excerpts/ In the implementation of the food program developed on the initiative of Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee, chairman of the Presidium of the USSR Supreme Soviet, and approved by the May (1982) Plenum of the CPSU Central Committee an important place is assigned to the agroindustrial fruit and vegetable complex. It is called upon to combine the production, procurement and sale of vegetables, potatoes and fruits into a single chain in order to more fully meet the population's needs for these food products.

In the Ukrainian SSR the fruit and vegetable complex is represented by specialized sovkhozes, trade and canning industry enterprises, agroindustrial associations in oblasts and the Ministry of Fruit and Vegetable Industry established at the beginning of last year.

The recently held Plenum of the Central Committee of the Communist Party of the Ukraine set the tasks of increasing fruit and vegetable output in the republic and of expanding the assortment of vegetables, fruits and berries. As noted at the plenum, some work was done in this direction.

The new ministry's 530 farms, which occupy only about 6 percent of the agricultural land in the republic, should sell vegetables--more than one-half in the total volume of procurement--and potatoes, fruits, berries, as well as milk--more than 10 percent--to the state by the end of the 11th Five-Year Plan.

The reality of these stepped-up assignments can be judged by last year. As is well known, owing to weather conditions, it was quite complex for agricultural workers. Nevertheless, its results can be evaluated positively. A total of 230,000 tons of early vegetables--12 percent more than the plan--were sold to the state. The procurement of grain, potatoes, fruits, berries, grapes and melon crops increased as compared with 1980. A total of 108 million standard cans of food more were produced and the plan for the output of canned baby food was fulfilled. Trade enterprises overfulfilled the retail trade turnover plan. Sufficient reserves of potatoes and fresh and processed vegetables for sale to the population during the winter and spring period were formed everywhere.

It seems that the advantages of the new system had an effect. In most oblasts in a comparatively short time it was possible to overcome the lack of departmental coordination to some extent and to link more closely agricultural production with the procurement, storage, processing and sale of fruit and vegetable output. The Central Committee of the Communist Party of the Ukraine, the UkSSR Council of Ministers and local party and Soviet bodies pay much attention to the formation of the new sector.

The Plenum of the Central Committee of the Communist Party of the Ukraine noted that the Ministry of Fruit and Vegetable Industry did not yet manifest itself in full force. A great deal will have to be done so that the sovkhozes transferred to us become large specialized farms, which on the basis of the recommendations of science and advanced experience will be able to greatly increase gross fruit and vegetable output. It is necessary to greatly improve the storage of the harvest and the delivery of vegetables, fruits and fodder root crops to trade centers and to ensure their grading, washing and preparation for sale. The trade network and refrigerating and packaging facilities must be developed and the organization of matters in storage facilities and processing enterprises must be improved.

It is well known that vegetables and early potatoes are placed mainly on reclaimed land. Therefore, an increase in the productivity of every irrigated and drained hectare is the main potential. On the ministry's farms there are more than 460,000 hectares of irrigated land and about 100,000 hectares of drained land. This is 22.6 percent of all our cultivated land. Every fifth hectare is occupied by potatoes or vegetables. The yield of reclaimed land is considerable. For example, last year it produced 83 percent of the total volume of vegetables. The yield of vegetables on irrigated land was 165 quintals, while on nonirrigated land, 100 quintals.

The potentials of the irrigated hectare are truly vast. That is why the ministry worked out an overall program for the development of land reclamation for 1981-1985. The purport and object of the program is to attain a significant increase in the productivity of every reclaimed hectare and on this basis to greatly increase the production of agricultural products, primarily vegetables and potatoes, on irrigated land.

Ways to attain a high yield of the irrigated hectare have been mapped out. They include the planned and persistent introduction of the achievements of science and advanced experience, utilization of promising, new varieties and hybrids on the renovated hectare and widespread application of advanced techniques and methods of labor. Measures aimed at an increase in soil fertility have been developed. Special attention is paid to personnel training.

The programming of harvests and the utilization of industrial technologies in vegetable cultivation are envisaged on a wide scale. On the Ovoshchnoy Sovkhoz in Kherson Oblast such technology has already been utilized for several years. The results convincingly point to their high economic efficiency. Having abolished heavy and unskilled manual labor in the thinning and weeding of crops and in harvesting, the sovkhoz greatly reduced the expenditures per quintal of output and lowered its cost. At the same time, the yield of tomatoes totals 500 to 600 quintals.

The ministry's sovkhozes have accumulated substantial experience in the cultivation of onions, carrots and cabbage according to industrial technology. For the first time in the country industrial technology of cucumber cultivation is being introduced on four farms.

The mechanization of labor intensive processes is one of the basic trends in vegetable growing. The industry has begun the output of machines for the harvesting of tomatoes, cabbage and onions. True, there are still very few of them. We are grouping this equipment on certain farms, which will make it possible by 1985 to use industrial technologies on almost one-third of the irrigated areas occupied by vegetable crops. This year these areas have already reached 14,000 hectares.

The assignment of areas to permanent mechanized detachments and links, as well as to manual labor links--so-called "gektarnitsy" operating on the basis of job-contract-plus-bonus wages with time-rate advances--is one of the ways to ensure high and stable harvests. Specialists of the ministry, oblast associations, trusts and farms attach great importance to this advanced form of labor organization. By the end of the five-year plan it should involve all detachments and links of vegetable growers.

Intensification of farm specialization, improvement in the structure of sown areas, a better selection of predecessors, expansion of areas planted with seedlings, introduction of early varieties and many other things will contribute to an increase in the yield.

The further concentration of areas sown with vegetables is envisaged. For each association and trust it will be determined which of the big sovkhozes is to produce 30,000 to 40,000 tons of vegetables on irrigated areas on open ground.

Practice shows that a large-scale vegetable farm is profitable. However, here are the figures: A total of 1,000 to 1,500 hectares can be allocated for vegetables only where irrigated areas exceed 2,500 hectares. In the ministry only 38 out of 318 are such farms growing vegetables on irrigated land.

The lack of large irrigated areas on the ministry's sovkhozes seriously hampers an increase in vegetable production on open ground. More than 100 vegetable growing sovkhozes do not have irrigated plots at all.

Today everything is being done to allocate maximal areas on irrigated land for vegetables. This year they will exceed 100,000 hectares, which makes up 78 percent of all the areas planted with vegetables. By the end of the five-year plan the areas of vegetable and melon crops and of potatoes on irrigated land are to be expanded by 20 percent as compared with 1980 and the gross production of vegetables is to be increased by 40 to 45 percent and of potatoes, 2 to 2.5-fold.

More than 56,000 hectares of irrigated land and about 20,000 hectares of drained land will be put to use on the ministry's farms during the 11th Five-Year Plan. For their efficient development mineral fertilizers, tractors, motor transport and reclamation and other agricultural equipment are allocated for specific purposes to farms and funds for the construction of production projects, housing and preschool institutions are also assigned to them.

In brief, a great deal is being done to increase the yield of the reclaimed hectare. On the ministry's farms by the end of the five-year plan 80 to 85 percent of all the vegetable plantations will be placed on renovated fields. We will be able to obtain 2.2 to 2.3 million tons of vegetables from the irrigated wedge. Potato areas on irrigated land are to be expanded from 14,900 to 21,000 hectares and the gross potato harvest is to be increased to 262,000 tons. The production of vegetables on irrigated land will be increased especially sharply in Kharkov, Voroshilovgrad and Odessa Oblasts. The output of vegetables from irrigated fields is to be doubled in Kiev Oblast by 1985.

It is no secret that on many farms the yield on irrigated areas is still low, primarily owing to the frequent disruptions in the irrigation regime. Along with organizational oversights the insufficient provision of irrigation systems with water has an effect. And how many "local" disturbances there are--now pumping-power equipment is disconnected and now there is a break in the network... The maintenance services of the Ministry of Land Reclamation and Water Resources, to which the technical servicing of irrigation systems is entrusted, are not very efficient.

The farms themselves and their managers and specialists are to blame for many imperfections. After all, they should organize a prompt correction of irrigation regimes and constantly control moisture reserves in soil.

During this, the second, year of the five-year plan vegetable growers have high obligations. Plans have been made to also increase vegetable production on reclaimed land--by 380,000 to 400,000 tons, or 24 percent as compared with last year. For this the delivery of mineral fertilizers for the irrigated field has been increased by more than 15,000 tons of the active substance. Areas under seedling crops have been brought up to 46,000 hectares. Earlier and higher-yielding varieties have been introduced.

Last year 80 of our specialized farms--on almost 30,000 hectares--attained the planned yield of vegetables on irrigated hectares. The task of ensuring the planned harvest on the entire vegetable cultivation area on irrigated land has now been set.

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TILLING AND CROPPING TECHNOLOGY

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NITROGEN, PHOSPHORUS, POTASSIUM BALANCE IN MAJOR AGRICULTURAL CROPS IN NATION

Moscow KHIMIYA V SEL'SKOM KHOZYAYSTVE in Russian No 7, Jul 82 pp 19-21

/Analytical survey by Prof A. V. Peterburgskiy/

/Text/ In the last 10 to 15 years Soviet agrochemists have begun to pay more attention to problems connected with the cycle and balance of substances in farming. With this they realize the legacy of Dmitriy Nikolayevich Pryanishnikov, who was always interested in this problem and connected even the very emergence of modern agronomic chemistry with Bussengo's work on the nitrogen cycle (1836). Pryanishnikov stressed that in modern farming the harvest became increasingly derivative of the utilization of fertilizers /1/. The spurtive increase in the application of mineral fertilizers and the sharp rise in the yield connected with it in all developed countries during postwar years are clear confirmations of the correct thought of Dmitriy Nikolayevich. The annual application of three scarce nutrients (N, P_2O_5 and K_2O) in the world reached 100 million tons (1978). Nitrogen accounts for almost one-half of this amount (47.8 million tons) and phosphates and potassium together comprise a little more--52 percent (28.3 and 23.3 million tons of P_2O_5 and K_2O respectively). The average world harvest based on the utilization of fertilizers increased 2.65-fold (including of nitrogen, 3.2-fold, of phosphorus, 2.25-fold and of potassium, 2.4-fold) from 1961-1965 through 1978 alone /2/.

During the same period the average world harvest of grain crops reached 20.98 quintals per hectare (rose by 39 percent), of sugar beets, 320.28 quintals per hectare (34 percent), of potatoes, 150.26 quintals per hectare (25 percent), of raw cotton, 11.46 quintals per hectare (20 percent) and of sunflower seeds, 11.77 quintals per hectare (9 percent). Of course, in developed countries these indicators are much higher /3/. As can be seen, there is no direct proportionality between the dynamics of increase in the application of fertilizers and in the yield. Nor is it possible, because none of the nutrients entering soil with fertilizers is fully utilized by agricultural crops.

The Soviet Union retains the first place in the world in the total production of N, P and K. In 1980 it reached 24.8 million tons and by 1985 it will rise to 36 or 37 million tons /4/. With regard to deliveries to agriculture, in 1979 /5/ they totaled the following (thousand tons): N--7,467; P_2O_5 of soluble phosphates--4,637; the same in phosphorite meal--843 and K_2O--4,411; in all--17,365. One hectare of arable land accounted for the following (kg): N--33.4; P_2O_5 (total)--24.6 and K_2O--19; total--77.5. In 1979 the application of organic fertilizers reached 760 million tons. By the end of the 11th Five-Year Plan the delivery of NPK will rise to 26.7 million tons and the application of organic fertilizers will increase to 1.1 or 1.2 billion tons. In 1979 the harvest reached the following (quintals per hectare): of grain crops, 14.2; of raw cotton, 29.6; of sugar beets, 204; of flax fiber, 3.0; of potatoes, 130; of vegetables, 156; of perennial grass hay, 19.5; of annual grass hay, 14.2; of natural hayfield hay, 6.8; of fodder root crops, 204; of corn for silage, 133 /5/.

In accordance with these figures we calculated the nitrogen, phosphorus and potassium balance and compared it with our data for previous years /6 and 7/. In 1978, which was the most productive year in grain and some other crops, the total N, P_2O_5 and K_2O balance in the country's farming was negative in N and K_2O (20 and 35 percent of their removal by the harvest, or 12 and 19 kg per hectare respectively) and positive in P_2O_5 (23 percent, or 6 kg per hectare). During the same year for sugar beets, fiber flax, potatoes and vegetables the balance was positive in all nutrients. A deficit of potassium was observed in cotton and fodder crops and a shortage of all the three elements, in grain crops and sunflower seeds. More detailed information on each of these crops over a period of many years is presented in the table.

Grain crops. As compared with 1966-1970, in 1976-1979 the harvest increased by 2.6 quintals per hectare. The N and K_2O balance was negative all the time and the phosphorus balance was weakly positive once (1979). Apparently, this chronic nutrient deficiency is the only reason for the slow increase in the yield of grain crops in the USSR.

Cotton. During the same period the harvest of raw cotton increased by 4.7 quintals per hectare. The USSR firmly holds the first place in the world in the yield of raw cotton, exceeding the average world output 2.5-fold and in the same proportion surpassing U.S. indicators. During all the years the N and P_2O_5 balance in cotton was positive, but the potassium balance, markedly negative. Probably, this hampers the rates of increase in the yield. According to the data of Central Asian agrochemists, it is impossible to obtain a raw cotton harvest of more than 20 quintals per hectare without the application of potassium. Nor can the role of potassium be underestimated in the cultivation of lucerne--the most important crop of cotton-lucerne crop rotations.

Sugar beets. During the period under consideration the harvest rose negligibly, that is, 14 quintals per hectare. Meanwhile, during the last 4 years the balance of each of the three scarce elements was positive. Apparently, the insufficiently high level of agrotechnology, as well as losses during the harvesting and storage of fodder root crops, has an effect.

Flax-fiber. The harvest did not change much, although the nutrient balance (especially the P and K balance) was highly positive. Perhaps the low level of nitrogen application, as well as losses during the harvesting and processing of flax-fiber, has an effect.

Potatoes. In 10 years the tuber harvest increased by only 10 quintals per hectare. The balance of the three elements is positive, but still insufficient for N and K_2O. Along with losses during harvesting this restrains the output of tubers.

The Balance of N, P_2O_5 and K_2O in Farming and the Harvest of Basic Output of Agricultural Crops

Year	Balance, % of Removal			Harvest (q/ha) during periods
	N	P_2O_5	K_2O	
		Cotton		
1969	124.6	207.8	-62.6	24.1 (1966-1970)
1970	108.5	190.0	-58.6	
1971	97.6	209.0	-17.8	27.3 (1971-1975)
1973	88.9	165.0	-51.5	
1974	93.5	191.9	-56.5	
1976	61.8	113.9	-48.1	28.8 (1976-1979)
1977	57.3	101.3	-42.8	
1978	81.0	145.0	-36.0	
1979	66.0	107.0	-49.0	
		Sugar Beets		
1969	17.6	161.1	-9.9	228 (1966-1970)
1970	11.6	130.0	-28.3	
1971	25.2	174	-17.8	217 (1971-1975)
1973	17.5	131.0	-16.3	
1974	38.8	153.3	-2.7	
1976	54.1	225.5	17.8	24.4 (1976-1979)
1977	62.0	239.1	30.1	
1978	72.0	256.0	36.0	
1979	98.0	330.0	62.0	
		Potatoes		
1969	-8.0	88.8	-46.7	115 (1966-1970)
1970	-8.6	88.0	-50.2	
1971	6.3	115.3	-43.3	113 (1971-1975)
1973	18.2	99.1	-33.2	
1974	58.4	201.9	-10.2	
1976	55.4	208.3	57.2	123 (1976-1979)
1977	67.0	222.4	74.9	
1978	66.0	225.0	74.0	
1979	37.0	180.0	36.0	
		Flax		
1969	58.3	152.7	179.9	3.4 (1966-1970)
1970	65.3	169.5	181.4	
1971	56.5	181.0	185.0	3.7 (1971-1975)
1973	88.0	223.0	244.0	
1974	86.4	260.0	277.7	
1976	37.5	262.5	282.1	3.6 (1976-1979)
1977	44.6	281.4	285.0	
1978	66.0	420.0	396.0	
1979	42.0	438.0	388.0	

		Grain Crops		
1969	-63.4	-42.4	-66.5	13.7 (1966-1970)
1970	-76.0	-59.5	-66.3	
1971	-57.8	-38.5	-62.8	14.7 (1971-1975)
1973	-54.6	-31.6	-59.5	
1974	-41.6	-15.6	-51.0	
1976	-25.9	-23.8	-77.5	16.3 (1976-1979)
1977	-39.9	2.9	-41.7	
1978	-47.0	-7.0	-20.0	
1979	-45.0	+9.0	-42.0	
		Vegetable Crops		
1969	109.0	203.0	5.3	132 (1966-1970)
1970	133.1	230.0	13.7	
1971	124.7	222.0	9.7	138 (1971-1975)
1973	129.0	228.0	15.8	
1974	164.5	278.4	28.9	
1976	60.0	85.0	58.2	154 (1976-1979)
1977	86.0	309.0	63.0	
1978	70.0	264.0	48.0	
1979	97.0	337.0	67.0	

Vegetable crops. In 10 years the harvest increased by 16 quintals per hectare. The balance of each of the three elements is positive, but of N and, especially, of K_2O, apparently, is insufficient.

An analysis of the data cited makes it possible to conclude that the intensification of chemicalization of farming in the USSR has led to an increase in the harvests of a number of crops. However, there is a need to further increase the deliveries of mineral fertilizers and to better utilize organic fertilizers, especially under grain and fodder crops and sunflower seeds.

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